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Southern Illinois University
at Carbondale

Bulletin

1982-1983 Graduate Catalog



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This publication provides information about Southern Illinois University at Carbondale. Primary attention is given to its academic programs, rules and regulations, and procedures. Students will be subject to the published requirements in effect when they are admitted to the Graduate School. Students beginning graduate work during the period of time from the start of summer semester 1982 through spring semester 1983 are subject to the academic requirements of the Graduate School as specified in this publication. These requirements may be superseded by future publications of the Graduate School Catalog or Graduate School General Information Brochure. If the requirements are subsequently changed, students may elect either to meet the requirements in force in their particular degree programs immediately prior to the change, or to meet the new requirements. If they elect the former option they shall be guaranteed a minimum period of time from the date that the program requirements were changed within which minimum period they will be permitted to complete the old degree requirements.

This minimum period shall be determined by the department or other degree-program unit, subject to the following two constraints. First, the minimum period prescribed by the department may not exceed the standard Graduate School limitation that credit applied toward fulfillment of requirements for the master's degree must have been earned within a six-year period preceding the completion of the degree, and that doctoral students must complete degree requirements within five years after admission to candidacy. Second, the minimum period shall encompass no less than two years for master's degree students and three years for doctoral students, with the exception that students in the last stage of their degree work when requirements change (a master's student who has completed all requirements except the thesis or research report and the final examination or a doctoral student who has been admitted to Ph.D. candidacy) shall not be subject to the new requirements but may complete their degrees within the standard Graduate School limitations stated above. Students who elect to follow old requirements, but do not complete their work within the minimum period prescribed by the department, shall, unless they were in the last stage of their degree work when requirements changed, be subject to requirements in force at the time they complete their degrees, and shall be subject to the standard Graduate School limitations described above. The University reserves the right to change information contained herein on matters other than curricular requirements without notice when circumstances warrant such action.



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at Carbondale Bulletin (USPS 506-080)**

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This Catalog

The Graduate Catalog covers in detail questions concerning the graduate program of Southern Illinois University at Carbondale for the period from summer, 1982, through spring, 1983. It supersedes Volume 21, Number 6, of the *Southern Illinois University Bulletin* and the Graduate School General Information brochure dated 1981-1982.

The following publications may be obtained free from University Graphics, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Graduate Catalog

Undergraduate Catalog

School of Law Catalog

Schedule of Classes. Please specify term (fall, spring, or summer).

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Board of Trustees and Officers of Administration

Board of Trustees of Southern Illinois University

	Term Expires
William R. Norwood, <i>Chairman</i> , Rolling Meadows	1983
A. D. Van Meter, Jr., <i>Vice-Chairman</i> , Springfield	1987
Carol Kimmel, <i>Secretary</i> , Moline	1983
Ivan A. Elliott, Jr., Carmi	1985
Crete B. Harvey, Sterling	1987
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George T. Wilkins, Jr., Edwardsville	1985
Stan Irvin, (Student Trustee) Carbondale	1983
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Michael R. Dingerson, *Associate Dean*, Graduate School and *Director*, Research
Development and Administration

University Calendar

Summer Session, 1982

Eight-Week Session Begins	Monday, June 14, 7:30 A.M.
Independence Day Holiday . . .	Monday, July 5
Final Examinations	Thursday and Friday, August 5-6
Commencement	Saturday, August 7

Fall Semester, 1982

Semester Classes Begin	Monday, August 23, 8:00 A.M.
Labor Day Holiday	Monday, September 6
Thanksgiving Vacation	Saturday, November 20, 12:00 NOON —Monday, November 29, 8:00 A.M.
Final Examinations	Monday, December 13—Friday, December 17

Spring Semester, 1983

Semester Classes Begin	Monday, January 17, 8:00 A.M.
Lincoln's Birthday Holiday . . .	Friday, February 11
Spring Vacation	Saturday, March 12, 12:00 NOON —Monday, March 21, 8:00 A.M.
Final Examinations	Monday, May 9—Friday, May 13
Commencement	Saturday, May 14

Summer Session, 1983 (Tentative)

Eight-Week Session Begins	Monday, June 13, 7:30 A.M.
Independence Day Holiday . . .	Monday, July 4
Final Examinations	Thursday and Friday, August 4-5
Commencement	Saturday, August 6

Fall Semester, 1983 (Tentative)

Semester Classes Begin	Monday, August 22, 8:00 A.M.
Labor Day Holiday	Monday, September 5
Thanksgiving Vacation	Saturday, November 19, 12:00 NOON —Monday, November 28, 8:00 A.M.
Final Examinations	Monday, December 12—Friday, December 16

Spring Semester, 1984 (Tentative)

Semester Classes Begin	Monday, January 16, 8:00 A.M.
Lincoln's Birthday Holiday . . .	Friday, February 13
Spring Vacation	Saturday, March 10, 12:00 NOON —Monday, March 19, 8:00 A.M.
Final Examinations	Monday, May 7—Friday, May 11
Commencement	Saturday, May 12

Summer Session, 1984 (Tentative)

Eight-Week Session Begins	Monday, June 11, 7:30 A.M.
Independence Day Holiday . . .	Monday, July 4
Final Examinations	Thursday and Friday, August 2-3
Commencement	Saturday, August 4

Excused Absences for Religious Holidays. Students absent from classes because of required observances of major religious holidays will be excused. It is the student's responsibility to notify the instructor of each class that will be missed in advance of the absence. Students must also take the responsibility for making up work missed.



1 The Graduate School

The Southern Illinois University System

Southern Illinois University is one of four senior, public university systems in the State of Illinois. A multi-campus institution serving approximately 33,000 students, SIU was chartered in 1869 as Southern Illinois Normal University located only in Carbondale. In 1947, the name of the institution was changed by legislative action to Southern Illinois University. In 1949, Southern Illinois University began offering off-campus academic courses in the metropolitan East St. Louis area. This initiative led to the eventual development in 1965 of a separate campus in Edwardsville.

The mission and scope of The Southern Illinois University System is highly complex and emphasizes a commitment to quality education. As the Southern Illinois University System has grown and flourished, its constituent Universities have developed programs of instruction, research, and public service which have attracted and served students, faculty, and staff not only from the region but from throughout the State of Illinois and the nation, and from overseas as well.

The Southern Illinois University System is governed by a nine-member Board of Trustees which sets policy that enables the institutions to carry out established missions and goals. The chancellor of the Southern Illinois University System is the chief executive officer of the system and is the primary link between the Universities and the Board of Trustees. The University presidents report directly to the chancellor and are responsible for the internal operations of the respective institutions.

The University

History

Chartered in 1869 with instruction initiated in 1874, Southern Illinois University at Carbondale has entered its second hundred years in operation. Established in 1869 as Southern Illinois Normal University, the school acquired the name, Southern Illinois University, in 1947 by legislative action. At the outset of the 1970's, Southern Illinois University became a single state system with two universities: Southern Illinois University at Carbondale and Southern Illinois University at Edwardsville. Southern Illinois University at Carbondale also has a medical school campus at Springfield. The institution first operated as a two-year normal school but in 1907 became a four-year, degree-granting institution although continuing its two-year course into the 1930's. It was in 1943 that the school was transformed from a teacher-training institution into a university, thus giving official recognition to the area's demand for diversified

training and service. Graduate work was instituted in 1943, with the first Ph.D. degrees granted in 1955. There has been diversification and expansion of graduate programs across the University through the Colleges of Communications and Fine Arts, Education, Business and Administration, Human Resources, Liberal Arts, Science, Engineering and Technology, and the School of Agriculture. In addition to expansion of programs within the Graduate School, professional schools have been established in medicine and law.

In keeping with the state's master plan, the University's objective is to provide a comprehensive educational program meeting as many individual student needs as possible. While providing excellent instruction in a broad range of traditional programs, it also helps individual students design special programs when their interests are directed toward more individualized curricula. The university comprises a faculty and the facilities to offer general and professional training ranging from two-year associate degrees to doctoral programs, as well as certificate and non-degree programs meeting the needs of persons not interested in degree education.

Location

The city of Carbondale is approximately 100 miles southeast of Saint Louis, Missouri, in Jackson County, the western border of which is the Mississippi River. Immediately south of Carbondale begins some of the most rugged and picturesque terrain in Illinois. Sixty miles to the south is the historic confluence of the Ohio and Mississippi rivers, the two forming the border of the southern tip of Little Egypt, the fourteen southernmost counties in Illinois. The region immediately surrounding Carbondale is noted for its large peach and apple orchards. Within ten miles of the campus are located two state parks and four lakes and much of the area is a part of the Shawnee National Forest.

Campus

Immediately south of the city of Carbondale, the University campus, comprising more than 3,290 acres, has developed a 981 acre portion with woods and a lake as a site for its academic buildings and residence halls. The buildings are located in wooded tracts along two circular shaped campus drives, named for Lincoln and Douglas. Two beautiful features that are located near the center of the campus complex are a wooded tract, preserved in the tradition of the native forests of Southern Illinois, and several buildings surrounding the site which formed the original campus a century ago. Approximately seventy large permanent buildings and several hundred small temporary buildings are located on the campus.

In addition to the numerous recreational facilities in the area, the University's own Lake-on-the-Campus offers facilities for swimming, boating, fishing, and picnicking within the confines of the campus. The Touch of Nature Environmental Center, a 6,500-acre complex on the shores of picturesque Little Grassy Lake, provides opportunity for outdoor learning experiences. The center serves as a field site for the Departments of Botany, Recreation, Special Education, Zoology, and Forestry. Its newly remodeled facilities have enabled the center to host conferences for business groups and educational organizations.

The Graduate School

The primary concern of the Graduate School is graduate instruction and research at Southern Illinois University at Carbondale. The Graduate School therefore plays an essential role in development of instructional and research

programs, in acquisition of funds, and in procurement of facilities necessary to encourage and support research by members of its scholarly community. Through students who meet the Graduate School's high standards of achievement by completing advanced courses of study and through students and faculty members who achieve significant results in their research, the Graduate School makes its contribution to the public welfare of the region, the state, the nation, and a number of other countries.

The Graduate School offers master's degrees through sixty-five programs, the specialist degree in four areas, and the doctoral degree through twenty-one programs. All programs are fully accredited. More than 3,400 graduate students pursue advanced study and research under the leadership of a graduate faculty of over 900 members. In addition, the Schools of Law and Medicine provide graduate students with excellent opportunities to work with faculty members and students in those professions.

The Graduate School, as a part of Southern Illinois University at Carbondale, is fully accredited by the North Central Association of Colleges and Secondary Schools. Other accreditations and affiliations include:

Accrediting Council of the American Assembly of Collegiate Schools of Business (undergraduate and master's level programs)

American Association for Accreditation of Laboratory Animal Care

American Chemical Society

American Council on Education for Journalism

American Psychological Association

American Speech and Hearing Association by American Board of Examiners in Speech and Hearing

Council on Rehabilitation Education

Illinois Office of Education

Superintendent of Education

State Board of Education

National Council for Accreditation of Teacher Education

National Association of Schools of Music

Society of American Foresters

Office of Research Development and Administration

The Office of Research Development and Administration is the University administrative unit primarily responsible for research administration and development. The functions of the office divide into two major categories. One is concerned with activities that are funded by federal, state, and local governments as well as by foundations, private industry, and other external funding sources. The second major category is the internal research program which is supported with state funds.

The Office of Research Development and Administration provides a number of services for faculty and for students who desire to submit research proposals to funding agencies. These include providing a resource library containing guidelines and application forms for applying for grants. General consultation is provided in proposal and budget preparation.

RESEARCH SHOPS AND SERVICES

To further assist faculty researchers, the Office of Research Development and Administration operates ten support service units for their use. The *Central Research Shop* is a facility which designs, repairs, and constructs special equipment required by researchers. The *Scientific Photography and Illustrations Unit* offers consultation and technical assistance to all researchers in need of scientific photography as an integral part of their research endeavors. For those researchers who use animals, a central animal facility or *Vivarium*

is maintained under the direction of a veterinarian to insure proper and humane care and management of animals as is necessary and legally required. The *Center for Electron Microscopy* houses two scanning and two transmission scopes, as well as other related equipment for the use of faculty researchers. The *Fine Instruments Research Shop* has two components: *electrical* and *mechanical*. This shop provides consultation, design, and fabrication of sophisticated electronic and mechanical instruments. The *Glassblowing Research Shop* provides design and fabrication of glass apparatus for research use. The *Electronics Research Shop* provides a repair capability for electronics equipment. The *Machine Research Shop* provides design and fabrication of materials demanding medium and large machining capabilities. The *Amino Acid Analyzer* provides amino-acid analyses of samples of both physiological and hydrolysate nature. Other research facilities are available throughout the campus and in the region relating to the various master's degree and doctoral programs of the Graduate School.

Facilities and Services

Morris Library

Morris Library, one of the larger open-shelf, subject division academic libraries under one roof in the country, contains over 1,500,000 volumes and subscribes to over 16,000 current periodicals. In addition to books and journals, the library has extensive collections of maps, manuscripts, rare books, government documents, phonograph records and over 1,700,00 units of microform materials. The collection is arranged into four subject divisions (education/psychology, humanities, science, and social studies) as well as a separate Undergraduate Library. Special Collections consists of rare books, historical archives, and University archives. Among the many collections are important research collections in American and British expatriate literature, twentieth century philosophy, proletariat theatre, the Irish literary renaissance, and press freedom. Morris Library serves as a depository of federal, state, and U.N. documents. A major source for research in the behavioral and social sciences is the Human Relations Area files, consisting of copies of documents, books, articles, and manuscripts covering many world cultures. Supplementing the resources of Morris Library is the Center for Research Libraries (Chicago), in which the University holds membership. Preparations are underway for Morris Library to connect with the Illinois Library Computer System (LCS), a state-wide automated circulation system. A computer-based interlibrary loan system serves to identify material in other libraries and to transmit requests for items. On-line computer-based bibliographic search capabilities using over 100 data bases are available. Graduate students and faculty may obtain state-wide borrower's cards in order to use and borrow library materials from the other state-supported universities in Illinois. A wide range of instructional development, research, and evaluation services, graphics materials, films, and related equipment are provided by Learning Resources Service. A separately housed law library may be used by the University community as well.

Computing Affairs

The Office of Computing Affairs supports the academic, administrative, and research needs of the University. The academic and research needs of faculty and students are supported through a wide variety of program languages such as FORTRAN, COBOL, PL/1, Assembler, Basic, and Pascal, through statistical packages like SAS and SPSS, through consultation on computer-related problems, and through a program of periodic, non-credit instruction in com-

puting topics. Administrative functions of the University are heavily automated under a centrally developed network of application systems. Administrative systems are developed using the COBOL and MARK IV languages, usually utilizing IMS DB/DC database technology. The major hardware components of the center are IBM System 370, Model 158 and Model 158AP computer systems, and a Prime 750 computer system. Special facilities of the Computing Center are instructional laboratories equipped with on-line terminals for interactive computing. There are also peripheral devices for special applications such as high-speed plotting and microfiche generation.

Placement Services of the Career Planning and Placement Center

Career Planning and Placement Services assists students and alumni seeking career employment. Maximum benefit from the services is assured for students who file their resumes approximately one semester prior to graduation. Alumni should periodically update their resumes which are placed on permanent file. All inquiries concerning this service should be made to the Career Planning and Placement Center office.

Housing

On-Campus Housing. On-campus housing is available in residence halls for single graduate students. All contracts will be for room and board.

University-owned housing for married students includes 304 unfurnished two- or three-bedroom air-conditioned apartments and 272 furnished efficiency, one- or two-bedroom apartments. Because the demand for university housing for married students exceeds the supply, information should be requested early from University Housing, Building B, Washington Square.

Off-Campus Housing. The Off-Campus Housing Office, Building B, Washington Square, maintains current information on off-campus rooms, apartments, houses for rent, or for sale, and trailer parks. Experience has shown that satisfactory arrangements cannot be made by mail. A personal visit is usually required. Prices vary widely, ranging from \$90 a month for trailer spaces to \$350 a month or more for houses and apartments. All arrangements for off-campus housing and all business transactions in the matter of this type of housing are the sole responsibility of the student and the owner of the facility.

Student Health Program

The Student Medical Benefit (SMB) Fee provides funding for a comprehensive health program including prevention programs, on campus out-patient care, infirmary care on campus, emergency services, hospitalization, specialty care, emergency dental care, and out-of-the-area benefits. The program also offers laboratory services, x-rays, and a pharmacy to fee-paying students.

Student Health Program is located in Beimfohr Hall and is open from 8:00 A.M. to 5:00 P.M. Monday through Friday and from 8:00 A.M. to 1:00 P.M. on Saturday. Students in need of emergency care when the Health Service is closed should go to the Memorial Hospital of Carbondale emergency room. If an ambulance is required, students should call the Jackson County ambulance, 529-2121.

Students with questions on coverage, exclusions, refunds, etc., should contact the fiscal affairs department of the Student Health Program, Kesnar Hall (112 Small Group Housing).

Specialized Student Services

The University maintains a commitment to make appropriate services, programs, and facilities available to students with disabilities. Numerous services

are provided to handicapped students through the Specialized Student Services Office and other departments in order that this student population may obtain the maximum academic, social, and cultural benefits within the University community. Available services and programs within the University include preadmission planning, orientation and mobility training, adapted van transportation, wheelchair repair, attendant recruitment and referral, adapted recreation, interpreters and notetakers for hearing impaired students, specialized materials and equipment for visually handicapped students, reader recruitment and referral, proctoring academic examinations, consultation with faculty, liaison with academic departments and other University offices, and liaison with agencies such as the Illinois Department of Rehabilitation Services. The campus is quite accessible and usable by students using wheelchairs, visually impaired, hearing impaired, learning disabled, and other permanently disabled students. The University Housing office also provides modified housing facilities in the Thompson Point Residence Halls and in the family housing areas. The University Housing office and Specialized Student Services office work with the student to ensure the acquisition of appropriate housing.

Women's Programs

Women's Programs, an office of Student Services, was designed to meet the special needs of women students. The office provides information and support for women making educational, vocational, and personal decisions; referral to services helpful to women; information and resources about women and changing sex roles; workshops, seminars, and discussions focusing on women's interests and needs; speakers for groups on topics related to women, and a listing of women's studies courses.

University Ombudsman, Office of the

The office of the University Ombudsman provides service to members of the University community who seek assistance with conflict resolution and management. Fair and equitable settlements are sought through explanation, investigation, negotiation, and mediation between parties. In its operation, the Ombudsman's office is independent of academic, administrative, and business units of the University.

The office has established simple, orderly procedures for receiving requests for assistance and grievances by students, members of the faculty and staff. The Ombudsman and staff advise complainants whether their complaints lack merit or whether they should seek resolution before another office or body of the University. When appropriate, the Ombudsman may assist the complaining individual in obtaining an informal settlement of the problem.

The Ombudsman has broad investigatory powers and access to all University records except medical files, as well as having direct access to all University officials including those at the presidential and vice-presidential levels.

Beyond assisting with individual problems, the Ombudsman works toward change of those policies and procedures which have inequitably affected individuals, particularly when inequities have been noted in numerous cases.

All inquiries and records are kept confidential.

Financial Assistance

Financial assistance is available to qualified students in all fields of study in the form of (1) graduate assistantships where one serves as a classroom teacher or assistant, as a research worker, or as an administrative assistant, (2) fellowships or traineeships, (3) scholarships, (4) college work-study pro-

grams, and (5) loans. There are basic regulations that relate to these awards. Students should make application for the graduate assistantships, fellowships, or traineeships through the department to which they have been admitted. Information and application forms for the scholarship program may be obtained from the Graduate School Office. Information regarding the student work program and loans may be had by contacting the Student Work and Financial Assistance Office.

Students should be sure that their applications for admission are complete including the submission of required transcripts to the Graduate School to assure consideration for an award. Unclassified graduate students (those not working for a degree) are eligible only for the student work program.

Graduate assistant appointments, graduate fellowships, and most traineeships include remission of tuition, but fees must be paid. A student may receive no more than two calendar years of graduate-student support while a master's level student. A student may receive no more than four calendar years of graduate-student support while a doctoral-level student. These time limits apply to assistantships, fellowships, traineeships, and other similar awards and appointments administered by the University, regardless of source of funds. Students who are awarded graduate assistantships, fellowships, or traineeships, but who have not furnished official proof of their most recent degree to the Graduate School shall be considered to be on term appointment for one semester only. No one will be appointed to a second term until an official transcript indicating receipt of the degree is received in the Graduate School.

Acceptance of an offer of financial aid (such as graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement which both student and graduate school expect to honor. In those instances in which the student accepts the offer before April 15 and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer.

Graduate Assistant Appointments

Graduate assistant appointments are available in a number of departments, research agencies, and administrative units. This type of appointment comprises the largest number of awards offered by the University. For these appointments, students apply directly to the chairperson of the department to which they have been admitted, who may in turn refer the students to a research agency or administrative unit that may have need for a student with the skills indicated. Only those students who have been admitted to degree programs are eligible to be appointed as graduate assistants. Unclassified students are not eligible for graduate assistant appointments.

A graduate student who holds a graduate assistant appointment of at least one-quarter of full time and who is appointed for the full length of an academic term (semester or full-length summer session) is eligible for a waiver of tuition each academic term the appointment is held. If a student is appointed for less than a full academic term on a fiscal pay basis, the student is not eligible for a tuition waiver for that academic term. A student who holds an appointment for the full academic term but resigns before the end of that term, and who continues to be registered for courses, shall be liable for the full tuition for the term.

A graduate student who has held an appointment requiring service to the University of at least 25 per cent of full time, for the full length of each of two consecutive semesters, will be eligible for a waiver of graduate tuition for the summer session immediately following the two consecutive semesters of service. In no case shall the additional term of tuition waiver be granted before the two consecutive semesters of service have been completed. This additional term of tuition waiver shall not apply to nonservice appointments or to graduate fellowships, or graduate dean's fellowships.

Service of 20 hours per week, or a corresponding load in teaching, is required for a half-time appointment. Graduate assistantship appointments pay stipends of at least \$440 per month for master's students for half-time duties; stipends increase at the Ph.D. level to a minimum of \$510 per month. Appointments are normally made for the nine-month academic year. There are a limited number of appointments for the summer session. Information about the specific conditions of the appointment should be directed to the department or office making the award.

Graduate Fellowships and Traineeships

The Graduate School and specific departments offer a number of graduate fellowships and traineeships. The number varies depending upon the funds available for these awards each year. All awards of this type are highly competitive based upon scholarship and potential for success in graduate study. Application for these awards should be made by February 1 preceding the academic year for which the award is desired. Application forms and information about the award may be obtained by contacting the department to which one has been admitted or is seeking admission.

The stipend for a fellowship is \$450 per month, or \$4,950 for eleven months for master's degree students; for doctoral degree students the stipend is \$484 per month, or \$5,324 for eleven months. Graduate School fellowships include waiver of tuition. While on fellowships, students shall not hold other appointments in the University, nor shall they hold jobs outside the University, since the purpose of the fellowship is to provide students with a source of income which will enable them to work full time at graduate studies rather than work part time at a job and part time at studies. There may be a training assignment if this has been outlined at the time of the appointment.

Individual departments often are able to provide traineeships. The Graduate School administers a limited number of such traineeships and plans to increase the number if possible. Information about these awards should be directed to the department to which one has been admitted or is seeking admission.

Dissertation Research Awards

Dissertation research awards are designed for superior students who are in the dissertation preparation stage of their graduate education. Selection is based upon a competition primarily considering the students academic research and quality of the dissertation prospectus. Students who will have started their dissertations by the end of the fall semester (advanced to candidacy, completed preliminary examinations, and completed most of their coursework and research tools) may apply for the award during the preceding spring semester. The application should be submitted by February 1. The award is for a maximum of 11 months at a monthly rate of \$548 or \$6,028, plus waiver of tuition.

Students holding a dissertation research award are expected to devote full-time to the approved research project as determined by their department. The student should be enrolled for dissertation hours. The student holding such an

award is expected to resign the award at the time the dissertation is submitted to the Graduate School if this comes prior to three weeks before the end of the time period for the award.

Graduate Dean's Fellowships

Several special graduate dean's fellowships are offered annually to students who, although not selected for a regular fellowship, in the judgment of the Graduate Dean show unusual promise for success in graduate studies. Students will be considered for these awards who have overcome social, cultural or economic disadvantages in attaining their educational objectives. Application should be made through the chairperson of the department in which the student is enrolled.

Stipend rates and related regulations are the same as for the regular graduate fellowships. There is no service requirement other than those activities which are required by departments of all students regardless of the source of their support.

Tuition Scholarships

A limited number of tuition scholarships are awarded to graduate students on the basis of scholarship. The award is for remission of tuition; fees must be paid. The tuition scholarship is normally awarded for two consecutive semesters (one academic year).

To be eligible the student must be admitted to the Graduate School and to a department, and the student may not hold another University appointment which provides a tuition waiver. Tuition scholarship recipients must enroll for a minimum of eight hours each semester. There is no service requirement other than the duties required by a department of all students regardless of their source of support.

Application forms are available in the Graduate School Office. Completed application forms should be in the Graduate School Office no later than April 1 preceding the year for which the tuition scholarship is requested.

Student Work and Financial Assistance

Other forms of financial assistance available through the Student Work and Financial Assistance Office include part-time employment on and off campus, cooperative work-study programs, summer employment, and student loan funds.

External Support for Graduate Study

Fellowships, grants-in-aid, scholarships, and other similar awards for the support of graduate students are available from many sources outside the University. Students are encouraged to apply for such awards. Information concerning appropriate external sources of support may be obtained from the Graduate School or from department chairpersons or directors of graduate studies of the student's major department.

Faculty Appointments

No student in a graduate degree program shall be appointed to any full-time faculty position in the department (or equivalent unit) while enrolled in the unit as a student, with the sole exception that a student who has already been admitted to candidacy for the doctoral degree may be granted a term appointment as an instructor in the unit while so enrolled. Such a term appointment shall not be renewable beyond a period of one year.

Tuition and Fees

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis, with 12 hours considered full time. Students will be assessed the following tuition and fees each term:

Graduate Student Tuition and Fee Schedule

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 33.75	\$ 74.06	\$107.81	\$101.25	\$ 74.06	\$175.31
2	67.50	83.12	150.62	202.50	83.12	285.62
3	101.25	94.44	195.69	303.75	94.44	398.19
4	135.00	105.92	240.92	405.00	105.92	510.92
5	168.75	117.39	286.14	506.25	117.39	623.64
6	202.50	128.88	331.38	607.50	128.88	736.38
7	236.25	140.36	376.61	708.75	140.36	849.11
8	270.00	151.83	421.83	810.00	151.83	961.83
9	303.75	163.31	467.06	911.25	163.31	1074.56
10	337.50	174.79	512.29	1012.50	174.79	1187.29
11	371.25	186.27	557.52	1113.75	186.27	1300.02
12 or more	405.00	197.75	602.75	1215.00	197.75	1412.75

The fees which have been established by the Board of Trustees are payable by all students unless they are specifically exempted by the Board of Trustees. All fees are considered to be institutional in nature and require payment regardless of whether or not the student receives direct benefits or is in a location which permits access to such benefits.

Student fees include: student center fee, student activity fee, athletic fee, revenue bond fee, and student medical benefit fee. A microfilming fee of \$36 is required of all doctoral students at the time the dissertation is submitted for approval. If copyright is desired, an additional fee of \$20 is required. (Additional fee information is available in the schedule of classes.) Student fees include:

Student Center Fee. Provides funds for the operation of the Student Center.

Student Activity Fee. Provides funding for student organizations and activities on campus.

Athletic Fee. Provides partial funding for the university intercollegiate athletic program.

Revenue Bond Fee. Replaces funds which were previously obtained from tuition payments and used to under-write the funded debt operations of the Student Center and university housing.

Student Medical Benefit Fee. Provides funding for a comprehensive student health program including emergency service; hospitalization; specialty, primary, intermediate, or infirmary care; and prevention program. A student who pays this \$45.00 fee is entitled to full medical benefits at the Health Service. One who has comparable coverage may seek a refund within the first three weeks of each semester by contacting the administrative director of the Health Service. Similarly, a refund is authorized for those students precluded from use of the student health program by unusual or extreme geographic considerations.

Additional Fee Information

1. Students should refer to the Schedule of Classes for specific fee information.
2. Permanent full-time or permanent part-time employees may be eligible for waiver of tuition and waiver of a portion of the student fees. (Graduate assistants are not eligible for a waiver of student fees.) Approval by the department head and the director of the Personnel Office must be given prior to enrolling for courses. Employees who are approved pay only the Students Center fee and the Students' Attorney Program Fee.
3. Students taking courses in extension or at approved residence centers are required to pay tuition as listed in the table above but do not pay student fees.
4. Graduate students who have registered for the minimum number of credit hours required for their degree may be required to pay a graduate clerical registration fee. Refer to the section titled "Continuing Registration Requirement" later in this chapter for the regulations governing this fee.
5. In addition to the above fees, there is a graduation fee. For further information contact the Office of Admissions and Records. When submitting their dissertations, doctoral students are required to pay a \$36.00 fee to cover the cost of publication of the dissertation abstract and micro-filming the dissertation. If copyright is desired, an additional fee of \$20.00 is required.
6. Students holding valid state scholarships are exempt from the above tuition and fees to the extent provided by the terms of the specific scholarship held. Honorary scholarships, which have no monetary value, may be awarded. An Illinois State Teacher Education Scholarship, an Illinois Military Scholarship, or an Illinois General Assembly Scholarship exempts the student from paying tuition, the student activity fee, and the graduation fee. The Illinois Scholarship for Dependents of Prisoners of War and the Illinois Bilingual Scholarship exempt the student from paying tuition and all mandatory non-refundable fees.
7. Adult education course fees are computed on the basis of approximately sixty cents per contact hour.
8. Other charges which students may incur are those for departmental field trips, library fines, and excess breakage. Also, students taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.
9. Students registering for courses on an audit basis pay the same tuition and fees as though they were registering for the courses for credit.
10. Out-of-state students will find the official University regulations governing determination of residency status for assessment of tuition later in this chapter.

11. Students enrolled in public service courses only pay tuition and a \$3.00 per semester hour fee divided equally between the Student Center and the Student Medical Benefit fund.

Payment and Refunding of Tuition and Fees

Tuition and fees are payable each semester during the academic year. Students who register in advance receive a Statement of Account in the mail and may pay either by mail or in person at the Bursar's Office, by the deadline date, in accordance with instructions accompanying the statement. Otherwise their advance registration is cancelled and they must register again later. Students who register at the start of a semester must pay tuition and fees according to the schedule which is in effect at that time. Students should read the *Schedule of Classes* for specific information on payment of tuition and fees.

Students who process a program change which places them in a different tuition and fee category than the one for which they originally registered will be billed additional tuition and fees when appropriate. If the change places them in a smaller tuition and fee category and if they have processed the program change within the first three weeks of the semester, they will receive an automatic credit to their account.

A credit for tuition and fees will be made to student accounts for students who officially withdraw from school by the withdrawal deadlines listed later in this chapter. They will receive a refund check in approximately four weeks after the withdrawal has been received by the Office of Admissions and Records. No credit for tuition and fees is made for withdrawal occurring after the deadlines, except as described in the next paragraph.

Special consideration is extended to individuals who leave school for extended military service (6 months or longer). Students will be refunded full tuition and fees paid if they enter military service during the first five weeks of school. If students withdraw during the sixth through tenth weeks of school, they will be refunded half of the paid tuition and fees, and they will receive one-half credit without letter grades for the courses in which they were receiving a passing grade at the time of withdrawal. When the withdrawal occurs after the tenth week, students will receive no refund, but will receive both grades and credit hours for the courses in which they are passing. In all instances, a copy of the military orders or a letter from the commanding officer is required for verification of impending military service. To be eligible for these benefits students must remain in school to within ten days of their military reporting date.

DEFERMENT OF TUITION AND FEES

Students who are experiencing a delay in the receipt of verified financial assistance through the Student Work and Financial Assistance Office or the Graduate School may be eligible for a cancellation waiver. If granted, a cancellation waiver prevents a student's registration from being cancelled even though tuition and fees have not been paid by the publicized cancellation date.

Information concerning cancellation waiver procedures is available from the Office of Student Work and Financial Assistance and the office of the Graduate School. This information is also published in the "Daily Egyptian" each term. Guidelines may vary from term to term and year to year so students are advised to seek out accurate information rather than assume they qualify.

Determination of Residency Status

The following is a direct quotation from the Board of Trustees' "Regulations Governing the Determination of Residency Status for Admission and Assessment of Student Tuition."

For the purpose of these regulations an *adult* is considered to be a student

eighteen years of age or over; a *minor* student is a student under eighteen years of age. The words *he* or *his* also apply to a female unless otherwise stated or clearly indicated. The term *the State* means the State of Illinois. Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for Resident status as defined in these regulations the nonresident status shall be assigned. (See section on students from Kentucky and Missouri below.)

Evidence for determination of residence status of each applicant for admission to the University shall be submitted to the Director of Admissions at the time of application for admission. A student may be reclassified at any time by the University upon the basis of additional or changed information. However, if the University has erroneously classified the student as a Resident, the change in tuition shall be applicable beginning with the term following the reclassification; if the University has erroneously classified the student as a nonresident, the change in tuition shall be applicable to the term in which the reclassification occurs, provided the student has filed a written request for review in accordance with these regulations. If the University has classified a student as a Resident based on false or falsified documents, the reclassification to nonresident status shall be retroactive to the first term during which residency status was based on the false or falsified documents.

Adult Student. An adult, to be considered a Resident, must have been a bona fide resident of the State for a period of at least three consecutive months immediately preceding the beginning of any term for which he registers at the University, and must continue to maintain a bona fide residency in the State, except that an adult student whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a Resident student.

Minor Student. The residence of a minor shall be considered to be, and to change with and follow:

- a. That of his parents, if they are living together, or the living parent, if one is dead; or
- b. If the parents are separated or divorced, that of the parent to whom the custody of the person has been awarded by court decree or order, or, in the absence of court decree or order, that of the parent with which the person has continuously resided for a period of at least three consecutive months immediately preceding his registration at the University; or
- c. That of the adoptive parents, if the person has been legally adopted and, in the event the adoptive parents become divorced or separated, that of the adoptive parent whose residence would govern under the foregoing rules if that parent had been a natural parent; or
- d. That of the legally appointed guardian of the person; or
- e. That of the *natural* guardian, such as a grandparent, adult brother or adult sister, adult uncle or aunt, or other adult relative with whom the person has resided and by whom he has been supported for a period of at least three consecutive months immediately preceding his registration at the University for any term, if the person's parents are dead or have abandoned him and if no legal guardian of the person has been appointed and qualified.

Parent or Guardian. No parent or legal or natural guardian will be considered a resident of the State unless he (a) maintains a bona fide and permanent place of abode within the State, and (b) lives, except when temporarily absent

from the State with no intention of changing his legal residence to some other State or country, within the State.

Emancipated Minor. If a minor has been emancipated, is completely self-supporting, and actually resides in the State, he shall be considered to be a Resident even though his parents or guardian may reside outside the State. An emancipated minor who is completely self-supporting shall be considered to *actually reside in the State of Illinois* if he has maintained a dwelling place within the State uninterrupted for a period of at least three consecutive months immediately preceding the beginning of any term for which he registers at the University. Marriage or active military service shall be regarded as effecting the emancipation of minors, whether male or female, for the purposes of this regulation. An emancipated minor whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a Resident student.

Married Student. A nonresident student, whether male or female, or a minor or adult, or a citizen or noncitizen of the United States, who is married to a resident of the State, may be classified as a Resident so long as he continues to reside in the State; however, a spouse through which a student claims residency must demonstrate his or her own residency in compliance with the requirements applicable to students seeking Resident status.

Persons without United States Citizenship. A person who is not a citizen of the United States of America, to be considered a Resident, must have permanent resident status with the United States Immigration and Naturalization Service and must also meet and comply with all of the other applicable requirements of these regulations to establish Resident status.

Armed Forces Personnel. A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a Resident as long as the person remains stationed and present in Illinois. If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

A person who is actively serving in one of the Armed Forces of the United States and who is stationed outside the State may be considered a Resident only if he was a resident of the State at the time he entered military service.

A person who is separated from active military service will be considered a Resident of Illinois immediately upon separation providing he: (a) was a resident of the State at the time he entered military service, (b) became treated as a Resident while in the military by attending school at Southern Illinois University while stationed within the State, or (c) has resided within the State for a period of three months after his separation.

State and Federal Penitentiary. A person who is incarcerated in a State or Federal place of detention within the State of Illinois will be treated as a Resident for tuition assessment purposes as long as he remains in that place of detention. If bona fide residence is established in Illinois upon release from detention, the duration of residence shall be deemed to include the prior period of detention.

Minor Children of Parents Transferred Outside the United States. The minor children of persons who have resided in the State for at least three consecutive months immediately prior to a transfer by their employers to some location outside the United States shall be considered Residents. However, this shall apply only when the minor children of such parents enroll in the University within five years from the time their parents are transferred by their employer to some location outside the United States.

Dependents of University Employees. The spouses and dependent children of all staff members (academic, administrative, non-academic) on appointment with the University shall be considered as Resident students for purposes of tuition assessments.

Definition of Terminology. To the extent that the terms *bona fide residence*, *independent*, *dependent*, and *emancipation* are not defined in these regulations, definitions shall be determined by according due consideration to all of the facts pertinent and material to the question and to the applicable laws and court decisions of the State of Illinois.

A bona fide residence is a domicile of an individual which is his true, fixed, and permanent home and place of habitation. It is the place to which, whenever he is absent, he has the intention of returning. Criteria to determine this intention include but are not limited to year around residence, voter registration, place of filing tax returns (home state indicated on federal tax return for purposes of revenue sharing), property ownership, driver's license, car registration, vacations, and employment.

Procedure for Review of Residency Status or Tuition Assessment. A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file a claim in writing to the appropriate official for a reconsideration of residency status and an adjustment of the tuition assessed. The written claim must be filed within 30 school days from the date of assessment of tuition or the date designated in the official University calendar as that upon which instruction begins for the academic period for which the tuition is payable, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question. If the student is dissatisfied with the ruling in response to the written claim made within said period, he may appeal the ruling to the Legal Counsel by filing with the appropriate official within twenty days of the notice of the ruling a written request.

Kentucky, Missouri Residents. Graduate students in the 14 westernmost counties of Kentucky may be charged in-state tuition rates. Students from the state of Missouri may be charged in-state tuition rates for the first 6 hours registered in a semester. For the number of hours above 6, the student pays out-of-state tuition.

Graduate Degrees Offered

The Graduate School offers a variety of master's degrees, the specialist degree, the Doctor of Philosophy degree, the Doctor of Rehabilitation degree and the Doctor of Business Administration degree. In several of the programs listed below, one or more concentrations are available.

Master's Degrees

Master's degrees are available in the approved programs listed below:

Abbreviations: Master of Accountancy, MAcc; Master of Arts, MA; Master of Business Administration, MBA; Master of Fine Arts, MFA; Master of Music, MM; Master of Music Education, MMEd; Master of Public Affairs, MPA; Master of Science, MS; Master of Science in Education, MS in Ed.

Accountancy	MAcc	German	MA
Administration of Justice	MS	Spanish	MA
Agribusiness Economics	MS	Forestry	MS
Agribusiness Economics		Forest Resource Management	
Agricultural Services		Outdoor Recreation Resource Management	
Agricultural Education and Mechanization	MS	Wood Science and Technology	
Agricultural Education		Geography	MA, MS
Agricultural Mechanization		Physical Environmental Systems	
Agricultural Services		Resource Management Systems	
Animal Industries	MS	Urban and Regional Planning	
Anthropology	MA	Geology	MS
Conservation Archaeology		Guidance and Educational Psychology	MS in Ed
Art	MFA	Guidance and Counseling	
Behavior Modification	MA, MS	Educational Psychology	
Biological Sciences	MS	Health Education	MS in Ed
Botany	MA, MS	School Health Education	
Business Administration	MBA	Community Health Education	
Business Education	MS in Ed	Safety Education	
Chemistry	MS	Higher Education	MS in Ed
Cinema and Photography	MFA	Academic Administration	
Communications Disorders and Sciences	MS	College and University Business Affairs	
Community Development	MS	College Student Personnel	
Computer Science	MS	Community College Teaching	
Early Childhood Education	MS in Ed	Adult Education	
Economics	MA, MS	History	MA
Educational Administration	MS in Ed	American	
Adult Education		Latin American	
Educational Administration		European	
Instructional Supervision		Home Economics Education	MS in Ed
Educational Media	MS in Ed	Human Development	MS
Elementary Education	MS in Ed	Child and Family	
Language Arts		Family Economics and Management	
Mathematics		Food and Nutrition	
Reading		Journalism	MA, MS
Science		Latin American Studies	MA
Social Studies		Linguistics	MA
Curriculum		Mathematics	MA, MS
Supervision		Microbiology	MA
Engineering	MS	Mining Engineering	MS
Electrical Sciences and Systems		Music	MM, MMEd
Engineering		Music History and Literature	
Engineering Mechanics and Materials		Music Theory and Composition	
Thermal and Environmental Engineering		Performance	
Engineering Biophysics	MS	Opera-Music Theater	
English	MA	Occupational Education	MS, MS in Ed
English as a Foreign Language	MA	Philosophy	MA
Environmental Design	MS	Physical Education	MS in Ed
Clothing and Textiles		Experimental Physical Education	
Design		Professional Physical Education	
Interior Design		Applied Physical Education	
Foreign Languages and Literatures		Physics	MA, MS
French	MA	Physiology	MS

Plant and Soil Science	MS	Outdoor Recreation	
Crop Science		Commercial Recreation	
Soil Science		Rehabilitation Administration and	
Horticultural Science		Services	MA, MS
Political Science	MA	Adjustment Services	
Psychology	MA, MS	Vocational Evaluation	
Experimental		Job Development and Placement	
Clinical		Rehabilitation Administration	
Counseling		Rehabilitation Counseling	MA, MS
Public Affairs	MPA	Alcohol Specialist	
Public Visual Communications	MA	Secondary Education	MS in Ed
Cinema		Sociology	MA
Television		Special Education	MS in Ed
Still Photography		Speech Communication	MA, MS
Recreation	MS in Ed	Statistics	MS
Park and Community Recreation		Theater	MA, MFA
Recreation for Special Populations		Zoology	MA, MS

Specialist Degree-Spec. Ed.

Specialist degree programs are available in the fields listed below.

Educational Administration

Guidance and Educational Psychology

Elementary Education

Secondary Education

Doctor's Degrees

Doctor of Philosophy degree programs are available in the fields listed below along with the approved concentrations:

Anthropology

English

Botany

Geography

Chemistry

Physical Environmental Systems

Communication Disorders and Sciences

Resource Management Systems

Economics

Historical Studies

Education

Journalism

Cultural Foundations

Mathematics

Educational Administration

Microbiology

Educational Media

Molecular Science

Educational Psychology

Philosophy

Elementary Education

Physiology

Guidance and Counseling

Political Science

Health Education

Psychology

Higher Education

Experimental

Measurement and Statistics

Clinical

Occupational Education

Counseling

Physical Education

Sociology

Secondary Education

Speech Communication

Special Education

Zoology

The Doctor of Rehabilitation degree is offered in rehabilitation.

The Doctor of Business Administration degree is offered in the area of business administration.

Degree Requirements

The following section describes Graduate School regulations unique to the master's, the specialist, and the doctoral degrees. For Graduate School procedures and regulations applicable to all graduate students, regardless of

degree program, the student should consult the section titled General Regulations and Procedures. For information about specific degree programs, the student should consult the departmental degree program description.

MASTER'S DEGREE PROGRAM

Requirements and admission policies for applicants to a master's degree program are elaborated in the following paragraphs.

Admission

In order to be admitted to a degree program, an applicant must meet Graduate School admission requirements and be approved by the department or degree program concerned.

The Graduate School requires that the applicant hold a bachelor's degree from an accredited institution or have completed all undergraduate degree requirements prior to the beginning of classes for the term for which admission is sought. The applicant must have earned a grade point average (GPA) of 2.40 or better ($A = 4.00$) on all undergraduate work completed prior to receipt of the bachelor's degree. Applicants to master's degree level study may begin the admissions process when they need no more than 32 semester hours beyond the credit shown on their transcript at the time of application to complete all requirements for the bachelor's degree.

The applicant may be admitted as an unclassified student, and later apply to a degree program when 12 or more semester hours of graduate work at SIU at Carbondale have been completed with a grade point average of 3.00 or better in courses for which grades of *A*, *B*, *C*, *D*, *F*, have been assigned. If the applicant has completed 12 or more semester hours of graduate work, a GPA of 3.00 or better must have been earned on all graduate work completed in order to qualify for admission to a degree program, regardless of the undergraduate GPA. An applicant may not be admitted to a degree program with a graduate GPA of less than 3.00.

The faculty of a degree-program unit may add its own grade-point average requirements and other requirements for admission to that particular program. The student should consult the description of the appropriate program for specific requirements.

An applicant who meets Graduate School requirements but is disapproved by the degree program to which application was made may be admitted as an unclassified student or may apply to another degree program.

General Requirements

Graduate credit earned in graduate courses for which the student has received grades of *A*, *B*, *C*, or *S*, and only such credit, is acceptable for master's degree programs. At least 21 semester hours of graduate credit with grades of *A*, *B*, or *C* must be earned in courses graded *A* through *F*. An overall grade point average of at least 3.00 in all graduate work included in the master's degree program is required before that degree can be awarded.

The Graduate School requires a minimum of 30 semester hours of acceptable graduate credit for the master's degree. Since certain degree programs require more than 30 hours, the student should consult the description of the appropriate program for specific requirements. No more than half of the credit applied toward fulfillment of the master's degree requirements may be earned at other universities and transferred to SIUC, and at least nine hours of course-work must be earned in courses taught on the Carbondale campus or in an approved residency center. Approved courses taught off-campus in other locations will not satisfy this requirement. Fifteen or more hours must be earned in

courses numbered 500 or above. At least 9 hours must be earned at SIU at Carbondale after admission to the degree program recommending the awarding of the degree.

Candidates for a master's degree are required to pass a comprehensive examination covering all of their graduate work, including the thesis. This examination may be written or oral, or both, as determined by the student's advisory committee.

Time Limits

Only credit earned within a six-year period preceding completion of requirements for the degree, whether at Southern Illinois University or elsewhere, will be counted toward the degree.

Thesis

Each candidate for a master's degree shall write a thesis except where a graduate program has been approved to provide some other arrangement, such as a research paper. The thesis shall be supervised by a committee of at least three members of the graduate faculty and may be counted for not more than six nor less than three semester hours of credit.

Students who have completed all coursework and have registered for the minimum number of thesis or research hours required for the degree are subject to the continuing registration requirement described in the section titled "General Regulations and Procedures."

Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to the date of graduation, to be bound and shelved in the library. For nonthesis programs, a research paper should show evidence of the student's knowledge of research techniques and should be based on a special project or specific courses as may be recommended by the advisory committee. One copy of the research paper must be filed in the Graduate School at least three weeks prior to the date of graduation.

Double Major for a Master's Degree

A student may earn a double major for a master's degree if such a program of graduate study is commensurate with the student's vocational and professional goals.

A student interested in pursuing a double major for a master's degree must submit to the graduate dean a written statement of justification for the proposed program and a program of study endorsed by the chairman of both of the cooperating units. The forms for submitting a double major program of study are available in the Graduate School office.

Requirements.

1. The student must have been admitted to one master's degree program.
2. Each unit in which the student wishes to earn a major must have an approved master's degree program.
3. The chairman of each unit must endorse the proposed program.
4. The proposed program must specify the title of the degree which is to be awarded.
5. The proposed program must be approved by the graduate dean.
6. At least 18 semester hours must be earned for each major, and one-half of the coursework for each major must be in courses numbered 500 or above.
7. The minimum number of hours required for the double major must total 60 per cent of the sum of the total required for the two majors individually.
8. The thesis may be counted for not more than a combined total of 6 nor less than 3 semester hours of credit.

Second Master's Degree

A student may earn a second master's degree if the second degree is offered by an academic unit different from that of the first master's degree. None of the hours used towards any previous degree will be allowed to count as a part of the total number of hours toward a second master's, and all regulations shall apply to the second master's degree exactly as they would if this were a first master's degree.

Summary of Master's Degree Requirements

At least 30 hours of graduate credit, or the minimum number of hours required by the specific degree program.

Grade point average of at least 3.00.

At least 15 hours in courses numbered 500 or above.

At least 9 hours after admission to the degree program.

At least 21 hours of graduate course work graded *A*, *B*, or *C*.

At least one-half of the required number of hours earned at SIU at Carbondale.

Courses to be applied to the degree taken within six years of conferring the degree.

Transfer credit taken at another institution or as an unclassified student approved by the dean of the Graduate School.

Two copies of an approved thesis or one copy of an approved research paper turned in to the Graduate School (not applicable for MBA program).

Comprehensive or oral examination.

Submission of departmental clearance form.

SIXTH-YEAR SPECIALIST DEGREE PROGRAM

The sixth-year specialist degree program is for qualified students who wish to pursue a specialization in an educational field. The student must hold a master's degree or its equivalent as determined by the specific department. Sixth-year courses of study are offered in the professional education areas of educational administration, elementary education, guidance, and secondary education.

Admission

Students seeking admission to the sixth-year specialist degree program follow the same procedures that apply for admission to other graduate programs. Admission to the sixth-year specialist degree program requires a grade point average of 3.25 (*A* = 4.00) for all previous graduate work. Departments may establish a higher scholastic requirement for admission and may use other selective criteria appropriate to the field of specialization. The student's previous work shall have provided a proper base of general and special preparation for the sixth-year studies; if this is lacking, additional work must be taken to establish this base. Two years of experience relevant to the specialized field are required.

General Requirements

A minimum of 30 semester hours of work beyond the master's degree or its equivalent must be completed with a minimum grade point average of 3.25. An advisory committee of three members for each candidate shall be appointed by the dean of the Graduate School upon the recommendation of the chairman of the respective department. The student's work must be planned early by the

student with the advisory committee and must clearly lead toward the specialization sought. No more than 15 hours earned for work done on campus at another university (for this purpose Southern Illinois University at Edwardsville is considered to be another university) or in extension from Southern Illinois University at Carbondale, or any combination of the two, may be counted toward the degree.

A field study is required of each candidate for the specialist degree. A written report of the field study is to be submitted to the student's advisory committee before a final oral examination. After the advisory committee approves the field study report, one copy will be forwarded to the Graduate School to be placed in Morris Library.

All credit must have been earned within seven years prior to completion of the program.

The residency requirement is fulfilled by enrollment for at least eight semester hours in a single semester or at least six semester hours in each of two terms (semesters or summer session of at least eight weeks duration). Credit earned in an educational specialist's degree program may, upon the approval of the student's doctoral committee and college, count toward a Ph.D. degree in education but it can not be considered as part of the residency requirement.

It should be noted that the admissions process is slightly different for unclassified (non-degree) and international students and such students should note the paragraphs at the end of this section.

DOCTORAL DEGREE PROGRAM

All Graduate School requirements for the Doctor of Philosophy degree also apply to other doctoral degree programs under the jurisdiction of the Graduate School.

Admission

Admission to a doctoral program in the Graduate School requires a master's degree or its equivalent, a grade point average in graduate work of at least 3.25, and acceptance by the academic unit offering the doctoral program. An applicant to doctoral level study may begin the admission process when the applicant needs no more than 16 additional semester hours (24 quarter hours) beyond the credits shown on the transcript at the time of application to complete all requirements for the master's degree. The graduate dean informs each student of any conditions for admission imposed by the Graduate School or by the academic unit.

Accelerated Entry into a Doctoral Program

Applicants with exceptional research potential or outstanding academic preparation may have the option to enter a doctoral program after one semester as a master's level student. Not all departments participate in the accelerated entry option; therefore, the interested applicant should contact the appropriate department.

The student initially must be admitted into a master's level program. After at least one semester and evidence that the applicant is prepared to begin research at the doctoral level and meets other departmental criteria for accelerated entry, the department may recommend admission directly into the doctoral program. The student must also meet the doctoral admission requirements including the minimum 3.25 grade point average for all graduate work.

It should be noted that coursework to be applied toward residency does not begin until after admission into the doctoral program.

General Requirements

The doctoral degree is awarded for high accomplishment in a particular discipline or a recognized interdisciplinary area, as measured by the student's ability to pass the preliminary examination for admission to candidacy, meet the research tool requirement of the program, perform a piece of original research, present the results in proper form in a dissertation, and defend the dissertation before a faculty committee. Except for the hours required to meet residency, there is no Graduate School requirement that a certain number of semester hours be taken for the doctorate although some degree programs do require a certain number of semester hours. Graduate work completed at another institution may be eligible for transfer to the student's doctoral program, subject to Graduate School regulations regarding transfer of credit and acceptance by the student's major department.

No doctoral level residence-credit program may be established off campus, although coursework involved in a doctoral program may be taken at an off-campus residence center provided that the full, normal requirement of residence on campus at Southern Illinois University at Carbondale is met under the usual Graduate School standards for doctoral programs.

Preliminary Examination

The student will generally prepare for this examination through independent study and coursework, as advised by the faculty of the doctoral program. The examination is given to determine the breadth and depth of the student's knowledge within the discipline. The particular form and content of the examination are determined by the faculty of each of the doctoral programs. The student will be permitted to take the preliminary examination at the discretion of the department, after having completed two years of full-time study or its equivalent beyond the baccalaureate.

Research Tool Requirement

The doctorate at Southern Illinois University at Carbondale is a research-oriented degree. The research tool requirement is intended to be an integral part of the student's program. Since research materials, problems, and techniques vary from discipline to discipline, the details of the research tool requirement are determined by the faculty of each of the doctoral programs.

Residency

The residency requirement for the doctorate must be fulfilled after admission to the doctoral program and before formal admission to doctoral candidacy. The residency requirement is satisfied by completion of 24 semester hours of credit on campus as a doctoral student within a period not to exceed four calendar years. No more than six hours of deferred dissertation credit may be applied toward fulfillment of the 24 semester hours residency requirement. Credit earned in concentrated courses or workshops may apply toward fulfillment of the residency requirements if the student is concurrently registered for a course spanning the full term. No more than six semester hours of short course or workshop credit may be applied to the 24 semester hours residency requirement.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Graduate School upon recommendation of the faculty responsible for the student's program, after the student has fulfilled the residency requirement for the doctoral degree, passed the preliminary examination, and met the research tool requirement of the program. The doctoral degree may not be conferred less than six months after

admission to candidacy, except upon approval of the dean of the Graduate School. The candidate must fulfill all requirements for the degree within a five-year period after admission to candidacy. If completion of requirements is delayed beyond five years, a student may be required to take another preliminary examination and be admitted to candidacy a second time.

Dissertation

After being admitted to candidacy, the student must complete a dissertation showing that the student is capable of independent research or other creative effort. The dissertation shall be supervised by a faculty committee which has been approved by the dean of the Graduate School. Unless the graduate dean has approved an exception requested by the student's academic unit this committee shall consist of five graduate faculty members, at least one of whom shall be from a graduate program outside the student's academic unit.

While working on the dissertation, the student must register for the course numbered 600. The student is to devote at least one academic year of full-time work to complete the dissertation and will register for 24 semester hours of dissertation credit, for example, 12 hours for each of two terms.

Students who have registered for 24 semester hours of dissertation credit and have not completed the doctoral dissertation are subject to the continuing registration requirement described in the section titled "General Regulations and Procedures."

Publication of the doctoral dissertation to insure its availability to the scholarly community is considered an integral part of the process of doctoral education. Students are encouraged to have their dissertations microfilmed by University Microfilms. Alternate methods of publication may be approved by the graduate dean if the dissertation is to be published within a reasonable period of time. Such publication must be in a relatively permanent form, without substantial alterations, and be available to the scholarly community. In either case, an abstract of the dissertation will be published in *Dissertation Abstracts International*.

The student must submit two copies of the dissertation acceptable to the Graduate School, along with an abstract of 600 words or less. Unless prior approval is granted for another form of publication, all dissertations will be microfilmed. There is a fee of \$36.00 to cover the cost of publication of the abstract and microfilming of the dissertation. If an alternate form of publication has been approved the fee is \$20 to cover the cost of publication of the abstract. If copyright is desired, an additional fee of \$20.00 will be required. The microfilming agreement form and the survey form of earned doctorates are completed in the office of the Graduate School at the time the dissertation is submitted.

The abstract will be published in the current *Dissertation Abstracts International* and the dissertation will be cited in *American Doctoral Dissertations and Comprehensive Dissertation Index*. A copy of the microfilmed dissertation will be placed in the Library of Congress archives. This service assures the student that the dissertation will be available to other researchers at no further personal expense to the student.

If the student elects to use the copyright service, copyright will be obtained in the student's name. Publication rights, other than for reproduction in microform or from microform, are the student's to assign to any publisher at any time. In addition, arrangements can sometimes be made for University microfilms to publish a small edition of the dissertation.

Final Examination

There will be a final oral examination administered by the student's doctoral dissertation committee. The examination will cover the subject of the disserta-

tion and other matters related to the discipline. Any member of the graduate faculty may attend the final oral examination and may participate in questioning and discussion, subject to reasonable limitations imposed by the chairperson of the committee, but only members of the committee may vote or make recommendations concerning acceptance of the dissertation and final examination. A student will be recommended for the degree only if the members of the committee, with at most one exception, judge both the dissertation and the performance at the final oral examination to be satisfactory.

Interdisciplinary Doctor of Philosophy Programs

These guidelines provide for interdisciplinary doctoral programs for a limited number of students whose educational requirements can be met by existing resources, but not exclusively by any one of the University's constituent units. Interdisciplinary doctoral programs will be instituted in response to the particular academic interest of individual students, not as programs of a permanent nature. The procedures and criteria given below govern the authorization and control of interdisciplinary doctoral programs.

1. After admission to an established doctoral program at Southern Illinois University at Carbondale and upon the recommendation of the chairperson or adviser of that program, a student may apply for an interdisciplinary doctoral program to the dean of the Graduate School.
2. The dean of the Graduate School will apply the following criteria in deciding whether a program committee should be established to consider the proposed interdisciplinary doctoral program.
 - a. The requisite staff must be available.
 - b. The library holdings must be adequate without unreasonable additions.
 - c. The program must lie within the recognized disciplines or fields of study, at least one of which offers the doctoral program.
3. If the dean of the Graduate School is satisfied that the proposed program satisfies these criteria, the dean shall form a special program committee of five members, at least three of whom shall be from units offering the doctorate.
4. If the committee approves the proposed program, a plan of study shall be developed that includes the following elements:
 - a. Fields or areas of study
 - b. Required courses
 - c. Languages or other research tool requirements
 - d. Dissertation subject
5. The program as approved by the committee and accepted for principal sponsorship by a unit with an approved doctoral program shall be submitted to the dean of the Graduate School. Upon final approval the student's program shall have the same binding effect upon the Graduate School as programs printed in the graduate catalog. The degree earned shall carry the title of the doctoral unit that has assumed principal sponsorship. The commencement program shall give specific indication that the degree is interdisciplinary and include a listing of those units that are substantively involved in addition to the principal sponsoring unit, as determined by the graduate dean.
6. When the committee has certified all the required performances, including the results of examinations, the committee shall be dissolved.

Summary of Doctoral Degree Requirements

Achievement of a grade point average of at least 3.00.

Completion of any specific courses required by the doctoral program.

- Fulfillment of the residency requirement.
- Completion of the research tool required by the doctoral program.
- Passing of the preliminary examination.
- Admission to candidacy.
- Completion of an approved dissertation with 24 hours of dissertation credit.
- Oral defense of dissertation.
- Submission of two approved copies of the dissertation to the Graduate School.
- Payment of \$36.00 microfilming fee.
- Completion of microfilm agreement and survey of earned doctorates at the Graduate School office.
- Degree conferred not less than six months nor more than five years after admission to candidacy.
- Submission of departmental clearance form.

OTHER TYPES OF REGISTRATION IN GRADUATE COURSES

The following discussion concerns students who are either unclassified for various reasons or are undergraduates wanting to take graduate-level courses.

Unclassified Students-Non-Degree

A person may apply for admission to the Graduate School as an unclassified student when the applicant does not seek a graduate degree or has applied too late to be admitted to a degree program for the term for which admission is sought.

If an unclassified student is admitted to a degree program at a later time, the director of that program may petition the graduate dean that graduate courses completed while the student was unclassified be applied toward fulfillment of degree requirements. The student will be subject to the rules and regulations of the Graduate School and the department concerned including the completion of at least 9 hours after being admitted to a master's degree program from unclassified status.

Unclassified students are not eligible for fellowships, assistantships, or tuition scholarships.

REGULAR UNCLASSIFIED

A person who seeks admission as a regular unclassified graduate student must have been awarded a bachelor's or higher degree. A student admitted as a regular unclassified student may enroll in graduate courses as long as the student meets retention standards of the Graduate School.

LATE-ENTRY UNCLASSIFIED

An applicant to a degree program who meets Graduate School admission standards but whose materials are received too late for processing may be granted late-entry, unclassified status for the term for which admission was originally sought. The application papers will continue to be processed for admission to a degree program for the term following the one originally applied for. Whether or not work taken by a student who is unclassified because of late application will later count toward a degree will be decided by the Graduate School and the department concerned.

TEMPORARY UNCLASSIFIED

An applicant who wishes to enroll for one term only or who has applied for admission too late to furnish official transcripts required by the Graduate School may be admitted as a temporary unclassified student. The applicant

must sign a special registration form affirming possession of a bachelor's degree. No transcript is required.

A student may register as a temporary unclassified student for one semester only. If the student wishes to enroll in graduate courses after this time period, the student must apply for and be admitted, either to a degree program or to regular unclassified status.

Undergraduate Student Registration in Graduate Courses

GRADUATE CREDIT

An undergraduate student who wishes to register for a graduate course (400- or 500-level course) for graduate credit must file the standard application for admission to the Graduate School and submit to the graduate dean a request for graduate credit. (Appropriate forms are available in the Graduate School office.) If the student is academically eligible for admission to a degree program, the student will be allowed to register as an undergraduate for graduate courses for graduate credit when within 12 semester hours of completing requirements for the bachelor's degree.

An undergraduate student who meets these qualifications will be allowed to take graduate courses for graduate credit for one semester or one summer term. If, at the end of the term, the student has not received the bachelor's degree, permission to enroll in graduate courses for graduate credit will be withdrawn until after the bachelor's degree has been conferred.

UNDERGRADUATE CREDIT

Undergraduate students are permitted to register for 500-level courses for undergraduate credit only by special permission of the graduate dean. Such permission will be granted only to properly qualified students. The procedure for obtaining such permission is as follows: the chairperson of the department offering the course, in collaboration with the instructor who is teaching the section of the course in which the student desires to enroll, and in consultation also with other appropriate persons such as the director of graduate studies for the department, should write a letter to the graduate dean indicating their approval for the student to take a particular 500-level course for undergraduate credit.

Such a request should be made only for a truly superior student, and there should be a clear expectation that the student would perform above the median of graduate students in the course. The letter should therefore include some information on the student's academic work with particular attention to advanced and relevant courses in the major area. Appropriate grade point averages should be included. If the petition is granted, a letter will be sent from the graduate dean to the registrar, asking that the specified credit be accepted in the student's undergraduate program.

General Regulations and Procedures

The following section includes Graduate School procedures and regulations applicable to all graduate students regardless of degree classification. Requirements unique to the master's, specialist, and doctoral degrees, are stated in the section titled Degree Requirements. For information about specific degree programs the student should consult the appropriate degree program description. Requirements unique to the non-degree classifications are stated in the section in this chapter titled Unclassified Students (Non-degree).

APPLICATION FOR GRADUATE STUDY

A student should obtain application forms from the Graduate School and submit the application directly to the Graduate School where it will be evaluated for compliance with Graduate School admission requirements. Some departments require a separate departmental application in addition to the Graduate School application. The applicant should consult the particular program description to determine if a separate departmental application is required. In such cases, the student should contact the department directly.

Transcripts

A student applying to a degree program must have the registrar of each college previously attended (except Southern Illinois University at Carbondale) send an official transcript of the student record to the Graduate School. Students applying for unclassified (nondegree status) must have the registrar of the degree-granting institution send one official transcript indicating the receipt of the bachelor's (or higher) degree to the Graduate School. Students applying for a degree program must have the registrar of each institution attended (other than Southern Illinois University at Carbondale) send one official transcript to the Graduate School. Transcripts need not be sent from institutions from which the student received neither a degree nor more than 12 semester hours of undergraduate credit, provided that the grades obtained at such institutions are recorded upon the transcript of a college which has granted the student a degree. Transcripts required by the Graduate School must be sent directly to the Graduate School. Copies submitted directly by the student or sent to a department are not acceptable. No transcripts or other admission credentials will be returned or forwarded to other institutions. Only if these steps are taken and if the student applies for a degree program will the application be forwarded to the academic unit in which the student indicates a desired major.

In accord with the Family Education Rights and Privacy Act of 1974, no non-Southern Illinois University person, firm, or agency may have access to an applicant's or a student's credentials without written consent of the individual concerned. Graduate students shall be permitted to examine their own records upon request. Such requests should be made by the student to the dean of the Graduate School.

Test Scores

All applicants to graduate degree programs must submit Graduate Record Examination Aptitude scores to the Graduate School. With the approval of the degree program, scores from a comparable test such as the Miller Analogies Test, Graduate Management Admissions Test, or Law School Admissions Test, may be substituted for the Graduate Record Examination. The test must have been taken within 5 years of the date of application to the Graduate School. Many departments require such test scores prior to admitting the student to a degree program. In those instances where a student is admitted and test scores are not available prior to admission, the student will be required to take the Graduate Record Examination Aptitude tests prior to the second term of registration. Unclassified graduate students are exempt from the Graduate Record Examination requirement, although they must submit Graduate Record Examination Aptitude test scores if they do later apply to a degree program.

Deadlines

In order to be fully admitted to a degree program at the beginning of the

academic term, an applicant should see to it that all required admissions materials are submitted to the Graduate School no later than 30 days prior to the beginning of the term for which the applicant is seeking admission.

Admission is for the term indicated and a student who does not enroll in courses for that term will be required to update the application by notifying the Graduate School before being allowed to enroll in courses.

If the term for which the applicant is applying is more than two years after the term of original admission, a student applying to a degree program must have the registrar of all institutions previously attended furnish official transcripts to the Graduate School. An unclassified, non-degree student must have the registrar of the bachelor's degree-granting institution furnish one official transcript. If a student is applying to a degree program and has taken any course work at another institution between the first admission and the first registration, the applicant must have the registrar of the appropriate institution(s) furnish official transcripts of this work regardless of the amount of time elapsed.

Requirements

The admission requirements of the Graduate School and the department must both be met before the student is admitted to a degree program, and both the Graduate School and the department may specify conditions. Most departments require additional materials such as letters of recommendation. These supporting materials should be sent directly to the applicant's major department. The student will be informed by the Graduate School of the resultant admission status after this process has been completed.

Admission of Faculty Members

No one who holds a faculty appointment at any of the academic ranks—lecturer, instructor, assistant professor, associate professor, and professor—shall be admitted to a graduate degree program at any level, or be eligible to register for courses to be taken for graduate credit, in the graduate degree program in which the faculty member holds the appointment. If a faculty member has been admitted to a graduate degree program in some unit other than the one in which such appointment exists, no member of the faculty of the unit in which the appointment is held may be a member of that colleague's thesis committee, graduate program committee, dissertation committee, or any other examining committee. (See also faculty appointments in the section titled Financial Assistance.)

Admission of International Students

This school is authorized under Federal law to enroll non-immigrant alien students. A student from abroad is subject to all requirements for admission established by the Graduate School. In addition, the applicant must complete special forms pertaining to the admission of international students. For these admission forms and for other information concerning international students, inquiries should be sent to the Graduate School, Southern Illinois University, Carbondale, Illinois 62901.

To allow ample time for visa and other departure procedures, the applicant should have an application and all supporting documents on file with the University no less than four months prior to the proposed entry date.

International students must be enrolled in a program leading to a graduate degree. They cannot be admitted as unclassified students.

If the above requirements are satisfactorily met and the student is admitted to a degree program, the applicant will be required to certify that personally adequate financial resources will be available to undertake and continue in a program of study.

Test of English as a Foreign Language (TOEFL). All foreign-born applicants not admitted under paragraph one under Academic Requirements listed below whose primary spoken language is not English must achieve a TOEFL score of 550. For some degree programs this minimum has been lowered to 500. This test must have been taken no more than 12 months prior to the term for which the applicant is seeking admission.

Academic Requirements. If a foreign-born applicant has completed a four-year bachelor's degree program at an accredited institution in the United States of America, the applicant may be given the same consideration for admission to a graduate degree program as a United States citizen, in regard to both academic requirements and the use of English as a foreign language.

If a foreign-born applicant has completed the equivalent of a four-year baccalaureate degree in any other country, or at an unaccredited institution, such applicant must have an academic record equivalent to a 2.70 grade point average ($A=4.00$) for admission to a master's degree program.

The determination of the applicant's grade point average shall be the responsibility of the Graduate School.

Applicants for doctoral programs must meet the regular academic requirements for admission to a doctoral program.

Qualification for Assistantship with Teaching Duties. Every international student assigned a graduate assistantship with teaching duties must pass an oral examination conducted by the Center for English as a Second Language before undertaking classroom duties. A representative of the appointing department and of the Graduate School must participate in the examination.

ADVISEMENT

Each student admitted to a degree program must consult a graduate adviser in the designated major department before going to the graduate desk of the Office of Admissions and Records for registration. This adviser will assist the student in planning the total program and in choosing courses each term.

Unclassified nondegree students begin registration immediately at the graduate desk in the Office of Admissions and Records.

Responsibility for errors in program or in interpretation of regulations of the Graduate School and the University rests entirely upon the student. Students who have questions regarding admission, registration, or degree requirements should consult their major department or the Graduate School. It is the students' responsibility to see that their records in the Graduate School office, in the Office of Admissions and Records, and with their respective major advisers are up-to-date and brought together well in advance of the time of graduation. The student cannot be approved for graduation unless these records are available at least six weeks in advance of the time of graduation.

REGISTRATION

Only those students who have been officially admitted by the Graduate School will be permitted to register.

The schedule of classes for a particular semester or for the summer session is available from the Registration Center in the Office of Admissions and Records.

After approval by the graduate adviser, course request forms and program change forms are processed at the graduate desk in the Office of Admissions and Records.

Students are strongly encouraged to complete their registration before the

beginning of classes. After the beginning of the term, the student must have the approval of the Graduate School to register late and may be required to pay a late registration fee. Program changes after registration must be approved by the student's adviser and the dean of the Graduate School and may involve payment of a program change fee. In addition, after the first week of classes, registration or program changes involving adding a course must have the approval of the instructor of each course.

Information concerning registration dates and deadlines for the first time the student attends the University will be sent when the student is admitted to the Graduate School. Continuing students should consult the Schedule of Classes for each semester to find deadlines and dates for registration.

Graduate Mail Registration

During the advance registration period for a term (see registration calendar for dates in the Schedule of Classes) graduate students admitted to a degree program, and admitted unclassified graduate students have the opportunity to register by mail. Graduate students admitted into a degree program should contact their graduate adviser to have the adviser sign their Course Request Form as a prerequisite to the process. Unclassified graduate students need not obtain an adviser's signature.

Late Registration

Effective spring semester, 1981, a late registration fee of \$15 shall be assessed to all students taking on-campus classes who register after the designated registration period. This fee shall be non-refundable and non-waiverable, except when it is clearly shown that the late registration was caused by faculty or administrative action. Off-campus classes and registration in 599, 600, and 601 shall be exempt from such fee.

Withdrawal from Courses and from the University

Students who officially register for courses may not withdraw merely by the stopping of attendance. They must process an official withdrawal form. Outlined below are the procedures to be followed by graduate students when withdrawing from courses and when withdrawing from the University (all courses for which registered).

DEADLINES FOR WITHDRAWING FROM THE UNIVERSITY OR FROM A COURSE

If Classes Meet for	Deadline for Withdrawal to Receive Refund	Deadline to Withdraw*
13-16 weeks	3rd week	8th week
9-12 weeks	2nd week	6th week
7 or 8 weeks	2nd week	4th week
4-6 weeks	1st week	3rd week
2 or 3 weeks	1st week	1st week
less than 2 weeks	2nd day	2nd day

COURSE WITHDRAWALS

Students officially withdraw from courses through the program change process. This process starts with the academic adviser and is completed at the Registration Center. Graduate Students may withdraw from a course through the 8th week of the fall and spring semesters. Withdrawal deadlines for shorter sessions are correspondingly earlier (see schedule above). Official withdrawals

during the first three weeks of the semester result in no entry being made on the student's record. Official withdrawals after the third week but prior to the 8th week of classes will result in the course listed on the student's record with the symbol *W* and the week of withdrawal. No withdrawals from a course will be authorized after the 8th week of classes. It is the student's responsibility to insure that the withdrawal process is officially completed.

WITHDRAWAL FROM THE UNIVERSITY

A complete withdrawal from the University may be authorized by the graduate dean at any time during the semester prior to the assignment of grades. Students who withdraw from all classes will have a statement of withdrawal from the University and the week of withdrawal entered on their records. Students who find it necessary to withdraw from the University after school has started and who are on campus should contact the Graduate School in person to initiate the withdrawal process. If they are unable to come to campus, they may write the Graduate School asking that it process a withdrawal.

Students who advance register, including the paying of tuition and fees, and then find they cannot attend school must process an official withdrawal the same as do those who withdraw after school starts. In this case the process is the same as outlined in the paragraph above. Students who advance register but do not clear tuition and fees by the announced deadline date have their registrations cancelled by the University. Students who have deferred payment of tuition and fees must officially withdraw if they stop attending classes; the failure to pay deferred fees by the deadline date does not cancel one's registration nor remove the obligation to pay the deferred fees.

Refer to the section "Payment and Refunding of Tuition and Fees" in this chapter for information about the refunding of tuition and fees when withdrawing from the University. Refer to that section, also, relative to special considerations extended to students withdrawing from school for extended military service.

Student Course Loads

Maximum coursework for graduate students is 16 hours each semester; 12 hours is considered a normal load.

The maximum and minimum loads for graduate students under various types of financial support are summarized in the following table:

Type of Financial Support	16-Week Semester		8-Week Session	
	Max.	Min.	Max.	Min.
No financial support	16		8	
Graduate Assistantships				
½ time appointment	12	6	6	3
¼ time appointment	14	6	7	3
More than ½ time appointment	8	3	4	2
Full-time University employees*	6		3	
Graduate Fellowships	16	12	8	6
Full Veteran's Benefits	16	10	8	5
Guaranteed Loans	16	8	8	6
SIU Scholarships	16	8	8	4

*Civil Service staff must have approval from the Personnel Office to register for courses.

A graduate student must enroll in 400- and 500-level credit work to meet the above minima. Audit work will not qualify to meet the minimum load. However, audit work is calculated in determining a student's maximum course load.

Exceptions to these maxima and minima are possible only with the written permission of the graduate dean.

Continuing Registration Requirement

Students who have not completed all degree requirements but who have registered for the minimum number of research, thesis, or dissertation credit hours required of the degree, must register every semester until all degree requirements have been completed. Summer sessions are exempted from the continuous registration requirement. The two alternatives listed below are available for students who do not register for some other appropriate course. Any graduate student who must continuously register as described above and who subsequently completes degree requirements without having registered continuously each intervening semester must have the permission of the graduate dean to graduate. Such permission will be contingent upon payment of the fees that would have been paid if the student had registered continuously each semester under graduate clerical registration described below.

Continuing Research-601. Continuing Research-601 is a graduate credit course offered by each graduate degree program for students who have previously registered for the minimum number of research, thesis, or dissertation credit required of the degree. Registration in 601 is required of all graduate students who are making a demand upon University resources, whether in residence or not, and who are not otherwise registered. Credit hours in 601 are 1 to 12 per semester. The specific number is to be determined by the major professor in consultation with the student. The number of hours will be dependent upon the nature and quantity of work to be done that semester. Tuition for 601 is the regular rate per semester hour, but those registering for 601 will be exempt from student fees except for the Student Center fee.

Graduate Clerical Registration. A graduate clerical registration is available for those students required to continuously register but who are not making a demand on University resources. The cost to the student is a flat fee to be determined by the Graduate School each semester. This fee is established to help defray the costs of maintaining the student's graduate school file. For the 1982-83 academic year, this fee will be \$15.00 per semester. There is no graduate credit for such registration. This alternative is not available to students who have not completed registration for a minimum number of 600 or 599 credit hours. Nor is this alternative available to students who are making a demand on University resources during the semester of registration.

School of Law Courses

A graduate student may enroll for graduate credit in law courses designated by the symbol *G* (e.g. Law 501*G*) if the student has permission of the dean of the School of Law and the dean of the Graduate School. Registration must be processed through the Graduate School and the grades will be reported on the Graduate School letter-grade system (*A, B, C, etc.*).

A graduate student may enroll in law courses for law credit only if the student has been duly admitted to the School of Law.

A law student may register for law credit in graduate courses with approval of the dean of the School of Law and the graduate dean. Registration must be

processed on School of Law forms and the grades will be reported on the Graduate School letter-grade system.

A law student may not register for graduate courses for graduate credit unless the student has been admitted to the Graduate School.

Residence-Center Credit

Credit earned at approved graduate residence centers and credit earned in off-campus courses for which graduate credit has been approved will be entered on a student's record as on-campus credit earned at Southern Illinois University at Carbondale.

Students enrolled for credit in approved residence-center master's degree programs or in specific residence-credit courses must have been officially admitted (either in a degree program or unclassified) to the Graduate School at Southern Illinois University at Carbondale.

For information about specific programs and courses, the student should consult the appropriate department.

TRANSFER CREDIT

All graduate credits earned by a student in good standing at an accredited university, which have not been applied toward fulfillment of requirements for another degree, are eligible for transfer to that student's degree program at Carbondale, subject to general limitations of Graduate School regulations, to residency requirements for Doctor of Philosophy degree programs, and to acceptance by the student's major department. All transfer credits are subject to final review by the graduate dean. No transfer credit will be given for work bearing a grade below *B* without express permission of the graduate dean in response to written petition from the student's department. No credit toward a degree may be earned by correspondence nor in extension courses at another university. In the case of a master's degree, the student must earn at least half of the credit applied toward fulfillment of degree requirements in courses offered by Southern Illinois University at Carbondale.

Students who have been admitted to the Graduate School and who have completed satisfactorily the nine-month agro-industrial and industrial development management program at the graduate school of the United States Department of Agriculture will receive credit from Southern Illinois University at Carbondale for 12 semester hours of graduate work which may be applied toward requirements of a Master of Science degree in agribusiness economics.

The department recommending the graduate degree shall administer all required general and final examinations, and a member of the graduate faculty at Southern Illinois University at Carbondale shall direct the student's master's thesis, required research paper, or doctoral dissertation.

GRADUATE GRADING SYSTEM

A Excellent. 4 grade points.

B Good. 3 grade points.

C Conditional, not fully satisfactory. 2 grade points.

D Poor, not satisfactory. 1 grade point.

F Failure. 0 grade points.

S Satisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average.

U Unsatisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average.

W Authorized withdrawal made through a program change. Work may not be completed. Refer to grade explanation below.

INC Incomplete. Has permission of the instructor to be completed within a period of time designated by the instructor. Refer to grade explanation below.

DEF Deferred. Used only for certain designated and approved 500-level courses of an individual continuing nature such as research, thesis, or dissertation. Refer to grade explanation below.

AU Audit. No grade or credit earned. Refer to grade explanation below.

GRADING SYSTEM EXPLANATION

Only courses for which the grades of *A*, *B*, *C*, or *S* have been received are acceptable in fulfillment of graduate degree requirements. The letter grades *A*, *B*, *C*, *D*, and *F* are included in computing the grade-point averages for academic retention. If a graduate student repeats a course with the permission of the graduate dean, both grades will be counted in the grade-point average. Graduate students will not receive graduate credit for Pass/Fail grades. They may not receive a grade of Pass/Fail in a 400-level course graded Pass/Fail on an elective basis.

400-level courses. Most 400-level courses may be taken for graduate credit. The graduate catalog will indicate those 400-level courses which may not be taken for graduate credit. No grades of Pass/Fail may be given for a 400-level course for graduate credit. The instructor in a 400-level course which can be taken for graduate credit has the discretion to decide whether to require additional work for graduate credit.

Withdrawal. A *W* indicates authorized withdrawal from a course prior to the date indicated in the schedule of classes for the term in which the course was taken. The student's record will reflect the courses from which the student had withdrawn with the symbol *W* and the week of withdrawal. Program changes to drop a course during the first three weeks of classes result in no entry being made on the student's record (consult the section entitled "Withdrawal from courses and from the University" for additional information on withdrawal procedures and deadlines).

Incomplete. An *INC* is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor. *INC* is not included in grade-point computation.

To complete the work from the original registration, a student should not register for the course again, but should complete the work for the original registration if the original registration is within the normal time limits established for the degree.

Deferred. When the work is completed in a course for which *DEF* has been assigned, the grade is changed to a letter grade by the instructor, except in the case of theses and dissertations. When a thesis or dissertation has been submitted to the Graduate School as approved, the grade is automatically changed to *S*. If a thesis or dissertation is found unacceptable and the student is dismissed from the program, the grade of *U* is automatically assigned upon receipt by the Graduate School of the action dismissing the student.

Audit. A student registering for a course on an audit basis receives no letter grade and no credit hours. The student's registration must indicate audit registration and the same fees are paid as when registering for credit. During the first three weeks of a regular semester a student registered for a course for credit may change to audit status or vice versa through the official program change process. Thereafter, the change may not be made.

Changing of grades. At the completion of a course the final grade assigned to a student is the responsibility of the instructor of the course. Grades given at the end of the course are final and may not be changed by additional work or by submitting additional materials; however, clerical errors in recording grades can be corrected. To correct a clerical error, the assigned instructor(s) should submit a grade change card together with an explanation and justification of the grade change for the approval or disapproval of the department chairperson, the appropriate college dean, and the dean of the Graduate School. In cases of theses and dissertations, for which DEF grades are given, the Graduate School changes the DEF grades upon presentation and acceptance of the thesis and dissertation and receipt of the departmental approval papers. In courses for which INC and DEF grades have been given, the assigned instructor(s) has the responsibility of determining the final grade to be assigned and notifying the Office of Admissions and Records of the final grade by means of the Grade Change Card.

ACADEMIC GRIEVANCES

Academic Grievance Procedure

Graduate students at Southern Illinois University at Carbondale, shall have the right to appeal for redress of grievance through established channels. Access to these channels is restricted to graduate students who were officially enrolled at the time when the incident that has resulted in the filing of a grievance occurred.

In general, it is preferable that problems be solved within the University at the level at which they arise. The Graduate School should not be asked to rule on any grievance until prior channels are exhausted. In addition, any question of the character or professional competence of any individual faculty member at Southern Illinois University will be considered to be outside of the competence of the academic grievance committee to judge.

An academic grievance committee shall consist of five members. The members of the committee shall be appointed from those colleges/schools having a graduate program. Of those five members, three shall be appointed from the graduate faculty and two shall be appointed from the graduate student body. The dean of the Graduate School will seek nominations from the graduate student council for the graduate student members of a committee. The dean will designate which colleges/schools will have graduate faculty members appointed and which will have graduate school members appointed. The committee will be demographically representative of the University insofar as possible. The academic unit from which the grievance arose will not have a member appointed to the grievance committee. An academic grievance committee shall meet and elect its own chairperson from among its graduate faculty membership.

A graduate student desiring a hearing before an academic grievance committee will submit a written request to the dean of the Graduate School within 30 calendar days after the aggrieved had received the final decision of the

person(s) who heard the complaint at the administrative or academic level at which the complaint had arisen. The request must state the following: (1) name of the aggrieved; (2) program in which aggrieved is enrolled; (3) name of the aggrieved's major adviser; (4) name and title of the person(s) against whom the complaint is lodged; (5) a means of reaching the aggrieved; (6) a statement of the grievance including descriptions of the incident(s) involved and date(s) of the occurrence.

Upon receiving the complaint, the dean of the Graduate School, in consultation with the graduate student council and the graduate council, shall select the grievance committee. The academic grievance committee will then conduct an investigation and produce a preliminary report within 30 days after the grievance has been filed if at all possible. The preliminary report will contain the following: (1) the initial request document as submitted by the aggrieved; (2) a statement of the grievance as determined by the Committee; (3) a statement of the specific alleged violations that are to be decided by a grievance hearing; (4) evidence relating to the grievance. The committee will review the preliminary report and present it to all parties to the grievance for their response. After responses are received, the academic grievance committee will decide within 72 hours, if at all possible, whether to conduct a formal grievance hearing, or dismiss the complaint as not being a valid complaint or within the academic grievance committee's jurisdiction or competence to decide. If the grievance is to be heard, the hearing must begin within 30 days if at all possible. If the academic grievance committee denies a hearing the grievant may appeal directly to the dean of the Graduate School.

All persons named as parties to the grievance by the preliminary report shall be in attendance at the grievance hearing unless this is physically impossible. All parties will have an equal opportunity to present their case and answer allegations of other parties. In brief, as nearly as possible, a hearing will proceed as follows: (1) all parties to the grievance will agree to the rules for the hearing; (2) opening statements will be presented by each party to the grievance. The grievants shall present their cases first; (3) each party to the grievance will present evidence or testimony. The grievants shall present evidence first; (4) questions will be asked by members of the academic grievance committee; (5) summary statements can be made by all parties to the grievance.

Upon completion of the open portion of the grievance hearing, the academic grievance committee may meet in executive session. It will write, approve by majority vote and sign a statement of its findings, and deliver them to the graduate dean and all other parties to the grievance within 72 hours after the hearing has ended. The report can also include minority statements which will then be appended to the majority report. In any case, the academic grievance committee's majority report will contain the following: (1) a statement of the time, date, where, and under what authority the hearing was held; (2) names of all persons present; (3) names of all persons presenting evidence or testimony; (4) a statement of the specific scope of the hearing; (5) a description of the substantive evidence which influenced the decision reached; (6) conclusions; (7) recommendations; (8) signatures of those academic grievance committee members judging the hearing.

RETENTION

Any student whose grade point average falls below 3.00 will be placed on academic probation. All 400- and 500-level courses taken after a student is admitted to the Graduate School are considered graduate level, unless the course is specifically designated, "Not for graduate credit," for all students.

Grade point averages for doctoral students are based on graduate credit work completed at Southern Illinois University at Carbondale after admission to the doctoral program. Grade point averages for master's degree students and unclassified graduate students are based on all graduate credit work completed at Southern Illinois University at Carbondale.

An unclassified student who has accumulated six or more semester hours (or the equivalent) of *C* unbalanced by *A* in all graduate courses taken at SIU at Carbondale will be suspended by the Graduate School.

A degree student who is on academic probation and has been on academic probation for at least one academic term, and who has accumulated six or more semester hours (or the equivalent) of *C* unbalanced by *A* in graduate-level courses taken at SIU at Carbondale, will be suspended from the Graduate School.

For the purpose of calculating hours of *C* or the equivalent, each hour of *D* is equivalent to 2 hours of *C* and each hour of *F* is equal to three hours of *C*. A student who is suspended from the Graduate School under these conditions will not again be eligible for admission to the Graduate School unless a special exception is granted by the graduate dean upon petition by the department the student wishes to enter.

GRADUATION

Graduation ceremonies are held each year at the end of the spring semester and the summer session. Degree candidates must apply for graduation with the Office of Admissions and Records by no later than the end of the first week of the spring semester or summer session in which the student plans to graduate. Candidates who plan to complete requirements at the end of the fall semester should apply for graduation during the first week of the fall semester. Although there is no ceremony at that time, degree candidates who complete requirements will have the fact that they have completed all requirements for the degree indicated on their academic records. The diploma will be issued at the time of the spring commencement.

Graduation application forms are available in the Office of Admissions and Records and may be obtained by mail by writing that office.

A \$10 graduation fee is established for all persons receiving degrees. The fee is payable at the time of application. The fee does not cover the rental fee for the cap, gown, and hood, or the cost of the invitations. These items are ordered through the University Book Store in the Student Center and questions regarding them should be referred to the University Book Store. Doctoral students are also required to pay a fee of \$36.00 to cover the cost of publication of the abstract and microfilming of the dissertation.

Final, approved copies of research reports, theses, field studies, special project reports, and dissertations are due in the Graduate School office not later than three weeks before graduation. Doctoral students must also submit the microfilming agreement form and the survey form of earned doctorates at the time the dissertation is submitted.

Although attendance at commencement is not compulsory, students who wish to graduate in absentia must notify the graduate dean in advance. This information is needed for seating arrangements and for mailing purposes.

POSTHUMOUS DEGREES

A graduate degree may be awarded posthumously if, before the student's death, work for the degree had substantially been completed. This determina-

tion shall be the responsibility of the graduate dean in consultation with the administrative officers and faculty of the degree program in which the student had been enrolled.

RELEASE OF STUDENT INFORMATION AND ISSUANCE OF TRANSCRIPTS

The University follows a policy for release of student information in compliance with federal regulations. More specific information may be obtained from the Office of Admissions and Records or from the Graduate School.

A transcript of the student's official educational record is issued by the Office of Admissions and Records under the following conditions: a transcript is sent, issued, or released only upon a student's request or explicit permission, except that such permission is not required when the University faculty and administrative officials or other educational institutions request transcripts for official purposes.

In addition, requests will be honored from a philanthropic organization financially supporting a student and from a recognized research organization conducting educational research provided the confidentiality of the transcript is protected. One transcript will be issued directly to a student upon request. The transcript will have the statement, *Issued to the Student*, stamped on its face. Transcripts will be sent without charge to recipients other than the student as requested by the student. A transcript will not be sent, issued, or released if a student owes money to the University as verified by the Bursar's Office or the Housing Business Services Office.

Graduate Advisers

The faculty members listed below have been designated by their departments to be responsible for formally approving admission of graduate students to the degree program, certifying completion of degree requirements, and serving as liaison with the Graduate School office regarding graduate student problems.

Accountancy: R. Clifton Andersen, Roland Wright

Administration of Justice: Dennis B. Anderson, Mark Riedel

Agribusiness Economics: William Herr, Lyle Solverson

Agricultural Education and Mechanization: James Legacy

Animal Industries: Carl Hausler, A. W. Young

Anthropology: Lionel Bender, Carroll L. Riley

Art: L. Brent Kington, Michael O. Onken

Behavior Modification: Jerome Lorenz, John Lutzker

Biological Sciences: William Dyer, Edwin Galbreath

Botany, Walter E. Schmid, Donald R. Tindall

Business Administration: R. Clifton Andersen, Hussein Elsaid

Business Education: William G. Gooch, Roger L. Luft

Chemistry and Biochemistry: James Cox, James Tyrrell

Cinema and Photography: Timothy J. Lyons

Communication Disorders and Sciences: I. P. Brackett

Community Development: David Fauri, Richard Thomas

Computer Science: Kenneth Danhof, Yaakov Varol

Early Childhood Education: Billy Dixon, Margaret Matthias

Economics: Robert Ellis, Paul Trescott

Education (Ph.D.): Donald L. Beggs

Educational Leadership: James Parker, Dean Stuck

Educational Media: Doris Dale, Billy Dixon

Elementary Education: Billy Dixon, Morris Lamb, Fred Sloan, Audrey Tomera
Engineering:
Electrical Sciences and Systems Engr.: Vernold Feiste
Engineering Mechanics and Materials: Philip K. Davis
Thermal and Environmental Engineering: J. W. Chen
Engineering Biophysics: Harold M. Kaplan
English: Hans Rudnick, William E. Simeone
English as a Foreign Language: Paul J. Angelis
Environmental Design: David C. Clarke, Wayne St. John
Foreign Languages:
French: James Kilker, Helmut Liedloff
German: Frederick Betz
Spanish: Arnold Ulner
Forestry: George Weaver
Geography: David G. Arey, David M. Sharpe
Geology: John Crelling, Russell Dutcher
Guidance and Educational Psychology: Ernest L. Lewis
Health Education: Donald N. Boydston
Higher Education: Arthur Casebeer, Jack Graham, Roland Keene, John E. King, Donald Tolle
History: Howard W. Allen, David Conrad
Historical Studies: Howard W. Allen, David Conrad
Home Economics Education: Anna Carol Fults, Dorothy Keenan, Rose Mary Carter
Human Development: Thomas M. Brooks
Journalism: Sharon M. Murphy, Vernon A. Stone
Latin American Studies: David P. Werlich
Linguistics: Paul J. Angelis
Mathematics: Alphonse Baartmans, S. Dharmadikari
Microbiology: Meir Lev, Jack Parker
Mining Engineering: Rodney Caudle, Kenneth Tempelmeyer
Molecular Science: Gerald V. Smith
Music: Robert E. Mueller, Phillip Olsson
Occupational Education: William G. Gooch, John Huck
Philosophy: James Diefenbeck, Matthew Kelly
Physical Education: Joel Thirer, Michael G. Wade
Physics: F. Bary Malik, Frank Sanders
Physiology: T. T. Dunagan, Donald M. Miller
Plant and Soil Science: Gerald D. Coorts
Political Science: John Foster, William Garner
Psychology: James McHose
Public Affairs: Osbin Ervin, John Foster
Public Visual Communications: Timothy Lyons, Sam Swan
Recreation: Douglas McEwen, William O'Brien
Rehabilitation Administration and Services: Richard Baker, Jerome Lorenz
Rehabilitation Counseling: Jerome Lorenz, Brockman Schumacher
Rehabilitation (Rh.D.): Jerome Lorenz, Stanford E. Rubin
Secondary Education: Arthur Aikman, Billy Dixon, Michael Jackson, Fred A. Sloan
Sociology: Lewellyn Hendrix, Charles Snyder
Special Education: Paul Bates, David Sabatino, Robert Sedlak
Speech Communication: Marvin Kleinau, Thomas J. Pace
Theater: Christian H. Moe, Darwin R. Payne
Zoology: Ronald Brandon, W. D. Klimstra

2

Academic Programs

The official descriptions of programs leading to approved graduate degrees are outlined in this chapter. Admission and degree requirements which are listed in Chapter 1 are minimum standards only, and the student should consult the program description in the selected major area for additional standards imposed by the department.

The titles of the programs are summarized below in alphabetical order. The full descriptions, however, are arranged so that in cases where a department offers more than one program the various programs are grouped together under that department. All programs are cross-listed to aid in locating the official description.

Several departments offer one or more concentrations as noted in Chapter 1 within the major, the requirements for these concentrations may be found in the program description.

Accountancy	Elementary Education
Administration of Justice	Engineering
Agribusiness Economics	Engineering Biophysics
Agricultural Education and Mechanization	English
Animal Industries	English as a Foreign Language
Anthropology	Environmental Design
Art	Foreign Languages and Literatures
Behavior Modification	French
Biological Sciences	German
Botany	Spanish
Business Administration	Forestry
Business Education	Geography
Chemistry	Geology
Cinema and Photography	Guidance and Educational Psychology
Community Development	Health Education
Communication Disorders and Sciences	Higher Education
Comprehensive Planning and Design	History
Computer Science	Historical Studies (Ph.D.)
Curriculum, Instruction, and Media Design	Home Economics Education
Early Childhood Education	Human Development
Economics	Instructional Materials
Education (Ph.D.)	Journalism
Educational Administration	Latin American Studies
Educational Leadership	Linguistics
Educational Media	Mathematics
	Microbiology
	Mining Engineering
	Molecular Science

Music
Occupational Education
Philosophy
Physical Education
Physics and Astronomy
Physiology
Plant and Soil Science
Political Science
Psychology
Public Affairs
Public Visual Communications

Recreation
Rehabilitation Administration
Rehabilitation Counseling
Secondary Education
Sociology
Special Education
Speech Communication
Statistics
Theater
Zoology

Accountancy

The objective of the Master of Accountancy program is to provide an opportunity for students to obtain greater breadth and depth in accounting education than is possible in baccalaureate or masters in business administration programs in preparation for careers as professional accountants in financial institutions, government, industry, nonprofit organizations, and public practice.

Admission

Applicants for admission to the program are required to:

1. Complete all requirements for admission to graduate study as specified by the Graduate School.
2. Complete the Graduate Management Admissions Test (GMAT). Information regarding the GMAT is available through: Graduate Management Admission Test, Educational Testing Service, Box 966, Princeton, NJ 08540.

The results of the test must be mailed directly to the associate dean for academic programs, College of Business and Administration.

Admission to the program will be based on an undergraduate grade point average of 2.5 (4.0 = A) and an acceptable score on the GMAT. The minimum admission total of these two factors will conform to that maintained in the M.B.A. program.

Applicants also must be interviewed by the associate dean for academic programs and by a designated graduate adviser of the Department of Accountancy. This interview may be delayed in cases where a trip to Carbondale would require travel in excess of one hundred miles.

Students whose native language is not English will be required to obtain an acceptable score (presently 550) on the Test of English as a Foreign Language (TOEFL) examination before being admitted to the Master of Accountancy program.

Notification of admission to the Master of Accountancy program is by letter from the associate dean for academic programs; this letter must be presented by the student prior to enrollment and registration in the program.

A student admitted to the program must maintain a B average; a B average is required for graduation.

Degree Requirements

The Master of Accountancy program consists of at least 30 hours in the study of accountancy beyond principles of financial and management accounting of which at least 15 hours must be at the graduate level. A student's program will be designed to insure coverage in the five basic areas of accountancy, i.e.,

financial accounting and accounting theory, management accounting, management information and computer systems, financial and operational auditing, and taxation. A specific program will vary depending upon the students background upon entry into the program.

A student who has an undergraduate major in accountancy will more than likely have coverage in more than one of the five basic areas of accountancy and thus will have to complete coverage in the remaining areas in addition to completing 15 additional hours in advanced graduate accounting courses. The 15 hours of advanced graduate accounting courses may be selected to form a concentration in an area of interest such as taxation, information systems, auditing, not-for-profit, management advisory services, controllership, etc.

The five core courses in accountancy at the graduate level which must be completed by all students are:

521 Financial Accounting Concepts

531 Management Accounting and Control Concepts

541 Tax Concepts

551 Accounting Information Systems Concept

561 Auditing Concepts and Methods

A student who has two or more courses in an area at the undergraduate level will be considered to have adequate coverage in that area.

A student who does not have any undergraduate work in accounting will be required to take the five basic core courses plus an additional fifteen advanced graduate hours in accountancy to complete the 30 hours required in the Master of Accountancy program.

A student must also complete the common body of knowledge requirements specified by the AACSB. A student who has graduated from an undergraduate accredited (AACSB) business school should have met this requirement. A student who has any deficiencies in any areas required by the AACSB will be required to make up these deficiencies before receiving the Master of Accountancy degree.

Graduate accountancy courses from which a student may select to complete the fifteen hours beyond the accountancy core requirements are:

522 Accounting Theory

529 Seminar in Financial Accounting

532 Controllership

542 Tax Research and Procedure

543 Corporate Taxation

544 Partnership Taxation

545 Estate Planning

546 Seminar: Selected Tax Topics

552 Accounting Information Systems II

562 Advanced Auditing Topics

571 Not-For-Profit Accounting

590 Seminar In Accounting

591 Independent Study

599 Thesis

601 Continuing Research

After students have completed the accountancy hour requirements, they will select their remaining hours with the advice and consent of their advisers. Such courses will normally be selected from other graduate offerings in the College of Business and Administration.

The full-time student who qualifies for the minimum program in terms of course work requirements normally may expect to complete the Master of Accountancy degree in one calendar year (two semesters and one summer session). The professional nature of this program requires that the courses,

writing requirements, special lectures, colloquia, independent study, and research activities be presented in an integrated manner which stresses the program aspects at all times. This requires serious and extensive personal commitment to the program on the part of all candidates.

In order to meet the graduation requirements the student must obtain a 3.0 grade point average (4.0 = A) and obtain a B or better in eighty percent of all graduate level courses.

Concentrations

A student who has an undergraduate degree in accounting or one who has satisfied the accounting common body of knowledge may arrange the hours in accounting to form a specific concentration. For example, a student interested in taxation might elect five or more tax courses. Similarly a student interested in management advisory services, auditing, controllership, information systems, or not-for-profit accounting might form a concentration in such areas. Concentrations are developed with the advice and consent of the student's adviser.

3-2 Program

A 3-2 program within the College of Business and Administration and the Department of Accountancy is available to qualified students within the college, transfer students, and students majoring in areas other than business. The program permits a student to devote a part of the last two years of undergraduate study to fulfilling the foundation course requirements for business and accounting required for the Master of Accountancy degree. Upon completion of the requirements for the bachelor's degree, the student may apply for admission to the Graduate School and the Master of Accountancy program. Students who successfully complete the program would thus have a five year program required for certification in some states.

Concurrent J.D. and M.Acc. Program

A student who has been admitted separately to the School of Law and to the M.Acc. program may apply for permission to study concurrently for both the Juris Doctor and Master of Accountancy degrees. This permission must be requested from both the School of Law and the Department of Accountancy, ordinarily prior to entry into the second year curriculum of the School of Law.

During the first academic year of concurrent work on the two degrees, the student enrolls only in the first-year law curriculum. In any subsequent academic term, the student may enroll for courses either in the School of Law or in the Master of Accountancy program. A student registered for both law and graduate courses in the same term must enroll for a minimum of ten hours in law, and twelve semester hours in total, in order to meet A.B.A. residence requirements and the academic requirements of the School of Law.

Completion of the concurrent programs requires that the student successfully complete 78 semester hours of law courses and 30 semester hours of courses that meet M.Acc. requirements. Nine hours of the thirty hours required for the M.Acc. program may be selected from courses offered by the School of Law with the consent of the student's adviser.

Other Graduate Degrees Offered by the College.

The College of Business and Administration also offers the Master of Business Administration (M.B.A.) and Doctor of Business Administration (D.B.A.) degrees. Information relative to these degrees may be obtained from the associate dean for graduate programs, College of Business and Administration.

Administration of Justice

The Center for the Study of Crime, Delinquency, and Corrections enjoys a national reputation for quality research and an outstanding educational offering. Along this line the center was awarded a special grant to develop a national model for a graduate program in the area of criminal justice planning, research, and evaluation. With the many relationships with operating agencies, students are afforded unique opportunities to gain practical experience as an integrated part of their academic work.

A number of opportunities for financial support are offered through the special programs and the research projects conducted by the center. In addition there are a number of fellowships offered, one of particular importance is the Celia M. Howard Fellowship award for women residents of Illinois pursuing the Master of Science degree in administration of justice. This fellowship covers tuition costs and is sponsored by the Illinois Federation of Business and Professional Women's Clubs. Application information will be furnished by the center.

The Center for the Study of Crime, Delinquency, and Corrections offers the Master of Science degree in the administration of justice. This curriculum—a multidisciplinary study of crime, its causes and settings, and systematic means of reacting to it—prepares students for careers in law enforcement, correctional services, and administration; teaching in criminal justice career programs; and criminal justice research and planning.

Augmenting the academic program, the research unit provides opportunity for graduate students to work with faculty members conducting research related to the administration of justice and in designing innovative projects in the field. Internship placement is included as an integral part of most areas of specialization to insure a blending of practical experience with the academic training received by the student.

Admission

Full admission to the graduate program requires at least a 2.7 overall undergraduate average and acceptance by the faculty. Scores on the Graduate Record Examination (aptitude portion only) are also required.

While a major in the administration of justice is the desired undergraduate preparation for graduate study in the field, a variety of other areas of emphasis are acceptable. A minimum of twelve units in sociology, psychology, or other social sciences is recommended. Other undergraduate majors may be appropriate, depending upon the specialization chosen. In individual cases, additional selected undergraduate courses may be required for acceptance in this program.

Requirements

Required Core Courses for Law Enforcement or Corrections Specialization.

AJ 500-3 History and Philosophy of Criminal Justice System

AJ 504-3 Criminological Theory

AJ 416-3 Methods of Criminal Justice Research

AJ 417-3 Research Practicum in Administration of Justice

AJ 587-3* Seminar in Law Enforcement, or

AJ 571-3* Correctional Systems in Criminal Justice

*AJ 587 is required of those whose specialization is in law enforcement whereas AJ 571 is required of those whose specialization is in corrections.

Required Core Courses for Criminal Justice Research Specialization.

AJ 500-3 History and Philosophy of Criminal Justice System

AJ 504-3 Criminological Theory

AJ 516a-3 Seminar in Advanced Criminal Justice Research, Design

AJ 516b-3 Seminar in Advanced Criminal Justice Research, Analysis

AJ 587-3 Seminar in Law Enforcement

AJ 562-3 Fundamental Legal Systems in Criminal Justice, or

AJ 571-3 Correctional Systems in Criminal Justice

*Supervised Field Work (Internship) Required for all areas of specialization.**

AJ 595a-3 Supervised Field Work (Internship) Graded S/U

AJ 595B-3 Supervised Field Work (Internship) Letter Graded

*Students may take a total of 12 hours internship and are encouraged to do so; however, only 6 hours may be counted toward the 36 hours required for the Master's degree.

Area of Specialization. The area of specialization will be composed of 12 units in addition to the introductory courses, 9 of which shall be selected from among the administration of justice offerings or concurrent to the area of specialization with the approval of the student's adviser.

*Thesis or Field Project Reports.** AJ 599-3 Thesis

AJ 591-3 Individual Research (Field Project Report)

*Students may take a total of 6 hours thesis or individual research and are encouraged to do so; however, only 3 hours may be counted toward the 36 hours required for the master's degree.

Required Credit Hours. The administration of justice master's degree program requires the completion of 36 semester hours within which the requirements stated must be met.

After the completion of 12 to 20 units and prior to the submission of the thesis or project proposal, the student must take a written preliminary examination covering the history and philosophy of criminal justice, basic research concepts, and an integrated approach to problem solving involving information from coursework in the area of emphasis. A supplementary reading list will be available. The examination will be held twice a year: in the Fall Semester and in the Spring Semester. Grading marks will be Pass, Fail, Honors. An oral examination will be given to students who fail the written examination.

The program offers flexibility in the development of an individualized program geared to the student's occupational objectives.

Application forms for both the Graduate School and the Department of Administration of Justice must be separately submitted. Upon request to the center, application forms from the Graduate School and the center will be sent. Acceptance in the program is contingent on the final approval of the administration of justice graduate affairs committee after admission to the Graduate School.

More detailed descriptions of the graduate program, as well as information on graduate assistantships and fellowships, may be obtained by writing: Academic Secretary, Center for the Study of Crime, Delinquency, and Corrections, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Agribusiness Economics

The Department of Agribusiness Economics offers graduate work leading to the Master of Science degree in agribusiness economics.

Students interested in agricultural economics at the doctoral level can be admitted to a program of study leading to the Ph.D. in economics.

Application forms for admission to the Graduate School may be obtained from the Graduate School. For entering graduate students to be acceptable on an unconditional basis in the agribusiness economics Master of Science degree program, a minimal undergraduate grade point average of 2.7 is required. Students may be accepted on a conditional basis if the GPA is below 2.7.

A thesis or research paper is required for the Master of Science degree. In some cases, particularly for students holding assistantships, two academic semesters and a summer may not be sufficient time in which to complete degree requirements.

The School of Agriculture offers courses in agribusiness economics as part of residence-center program at Western Illinois University.

Inquiries for financial assistance and additional information would be directed to the chairman of the Department of Agribusiness Economics, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Thesis Option. Specialization may be attained in farm management, agricultural marketing, agricultural prices, agricultural policy, resource economics, and agribusiness management with emphasis on application to agricultural environmental studies available in each specialization.

Undergraduate competence in economics and agricultural economics must be demonstrated. Students with an insufficient background in economics or agricultural economics may be admitted if remedial courses are taken.

A minimum of 30 hours of graduate credit, including thesis or research hours, is required for the Master of Science degree in agribusiness economics with a concentration in agricultural economics. At least 15 hours must be at the 500 level.

Twelve hours of agricultural economics courses are required. This includes Agribusiness Economics 500a, 500b, 551, 552, and 581. In addition, the student's program is oriented toward either economics or business. The emphasis in economics is accomplished by completing six hours of graduate level economics and Economics 467 or equivalent. The emphasis in business is accomplished by completing six hours of graduate level business courses and Business Administration 410 or equivalent. Such work completed as part of an undergraduate degree may be accepted in meeting the economics or business program requirements. This enables students with strong backgrounds in economics or business to take additional agricultural economics courses or courses in their area of specialization and interest to meet the 30 hour M.S. degree requirement. M.S. degree students usually take 3-5 hours of research or thesis (a maximum of 5 hours permitted) and complete additional hours by taking courses in agricultural economics, economics, or business.

Non-Thesis Option (Agricultural Services). The agricultural services concentration is designed to permit students who are engaged in agriculture as extension workers, as soil conservation employees, in mechanization related industries, agricultural environmental service, etc., to expand their educational experiences in light of current and prospective employment goals and opportunities.

A minimum of 30 hours of graduate credit, including thesis or research hours, is required for an M.S. degree in agribusiness economics with a concentration in agricultural services. At least 15 hours must be at the 500 level. Fifteen hours must be agricultural courses. Students usually take 4-6 hours of research or thesis and complete the additional hours by taking courses in their area of specialization.

Agricultural Education and Mechanization

The Department of Agricultural Education and Mechanization offers graduate work leading to the Master of Science degree with concentrations in agricultural education, agricultural mechanization, and agricultural services.

Students interested in agricultural education at the doctoral level can be admitted to a program of study leading to the Ph.D. in education.

Application forms for admission to the Graduate School may be obtained from the Graduate School. For entering graduate students to be acceptable on an unconditional basis in the agricultural education and mechanization concentrations for the Master of Science degree program, a minimal undergraduate grade point average of 2.7 is required. Students may be accepted on a conditional basis if the GPA is below 2.7.

The School of Agriculture offers courses in agricultural education and mechanization as part of a residence-center program at Western Illinois University.

Inquiries for financial assistance and additional information should be directed to the chairperson of the Department of Agricultural Education and Mechanization, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Agricultural Education

The concentration in agricultural education is designed for instructors in secondary schools, for students preparing for employment at junior colleges, and for those desiring to continue their education by obtaining a Ph.D. degree.

A minimum of 30 hours of graduate credit, including thesis or research hours is required for the M.S. degree in agricultural education and mechanization with a concentration in agricultural education. At least 15 hours must be at the 500 level.

A minimum of 15 hours is required in agriculture (including agricultural education), six hours of research methods or statistics, and six hours in education or community development. M.S. students usually take 4–6 hours of research or thesis, and complete the additional hours by taking courses in education or agriculture.

Agricultural Mechanization

The concentration in agricultural mechanization is designed to permit students interested in agricultural mechanization the opportunity to specialize in one or more of the following areas: (a) power and machinery operation and field testing, (b) product handling, processing, and storage, (c) farm equipment sales, service, and product education, (d) machinery selection and efficient utilization in the farming operation, (e) agricultural structures—sales and construction supervision, (f) agricultural electricity—service and consumer advisement, (g) conservation of soil and water. Each of these areas offers application in agricultural environmental studies.

A minimum of 30 hours of graduate credit, including thesis or research hours is required for the Master of Science degree in agricultural education and mechanization with a concentration in agricultural mechanization. At least 15 hours must be at the 500 level.

Agricultural Services

The agricultural services concentration is designed to permit students who are engaged in agriculture as extension workers, as soil conservation employees,

agricultural environmental service, etc., to expand their educational experiences in light of current and prospective employment goals and opportunities.

A minimum of 30 hours of graduate credit, including thesis or research hours, is required for an M.S. degree in agricultural education and mechanization with a concentration in agricultural services. At least 15 hours must be at the 500 level. Fifteen hours must be agricultural courses. Students usually take 4-6 hours of research or thesis and complete the additional hours by taking courses in their area of specialization.

Animal Industries

The Department of Animal Industries offers programs of study leading to the Master of Science degree in animal industries. Programs may be designed in the various disciplines of breeding, nutrition, reproduction, physiology, growth and development or production, with emphasis on beef cattle, dairy cattle, horses, poultry, sheep, or swine. Supporting courses may be selected in applied science, chemistry, microbiology, physiology, zoology, behavioral science, agriculture, etc.

Admission to programs administered by the Department of Animal Industries must be approved by the department. Application and reference forms will be provided upon request from the department. Applicants must have the registrar of each college previously attended send three official transcripts of their records directly to the Graduate School.

Requirements

Minimum requirements for the master's degree may be fulfilled by satisfactory completion of 30 semester hours of graduate credit, with a minimum of 15 hours in animal industries. A maximum of two animal production related courses (AnI 419, 420, 430, 455, 465, 480, 485) may be counted for graduate credit. At least 8 hours of graduate credit must be earned outside the School of Agriculture. Minimal requirements for students entering the master's degree program are: (a) meet animal industries undergraduate requirements; (b) minimal GPA of 2.7 ($A = 4.0$); (c) Chemistry 344 and 345 or organic chemistry equivalent.

Students who do not meet the undergraduate requirements may correct these deficiencies while an unclassified student or with the consent of the department during graduate study. Students entering the animal industries graduate program with a GPA below 2.70 are accepted on a conditional basis and must enroll in 8 hours of structured courses at the 400-500 level during their first semester and make a 3.0 GPA or be dropped from the program.

Each student, whether in the thesis or non-thesis option, will have an advisory committee of at least four members including the departmental chairman and at least one other member of the department. Each master's degree candidate must pass a comprehensive oral examination covering all graduate work including the thesis or research paper.

Students interested in animal science at the doctoral level can be admitted to a program of study leading to the Ph.D. degree in physiology. The program, in the Department of Physiology, is adequately flexible to allow students to emphasize such areas as behavioral science, endocrinology, metabolism, microbiology, physiological genetics, or reproductive physiology. For admission requirements and program description the student should consult the physiology section in the Graduate Catalog.

The School of Agriculture offers courses in animal industries as part of a residence center program at Western Illinois University.

Information concerning admission policies, requisites for graduation, and availability of financial assistance for graduate study in animal industries may be obtained from the Department of Animal Industries, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Anthropology

The Department of Anthropology offers graduate programs leading to the Master of Arts and Doctor of Philosophy degrees. Within the Master of Arts program the department offers a concentration in conservation archaeology. Provided the student has been admitted to the Graduate School and meets its requirements, acceptance and continuation in the graduate program are at the discretion of the Department of Anthropology.

The philosophy of the Department of Anthropology is to produce students with broad backgrounds in the major sub-fields of anthropology and expertise in particular specialty areas. Within this philosophy, and subject to the requirements discussed below, the department hopes to create a flexible program which will cater to students with diverse needs and goals.

Admission application forms should be obtained from the Department of Anthropology and returned to the Graduate School. In addition, the student must provide three letters of recommendation and a personal statement of aims and interests; these materials should be forwarded directly to the director of graduate studies in the Department of Anthropology. No special program of previous work is required. Applicants with academic degrees in fields other than anthropology are encouraged to apply.

The Program

In addition to the Graduate School requirements specified in the Graduate Catalog, the following departmental requirements apply to all graduate students in anthropology: (1) The completion of Anthropology 400D, or its equivalent, and Anthropology 409. (2) A demonstrated reading competence in a language foreign to the student.

Each spring semester the department administers a written preliminary examination to all M.A. level students; a student failing to take the examination during the first spring semester in residence will be considered to have withdrawn from the program. One part of the preliminary examination is designed to assess the student's critical and analytic abilities, a second part samples the student's knowledge of the sub-fields of anthropology. After the faculty has evaluated the preliminary examinations, as well as the student's total academic record, the student is granted or denied approval to continue in the M.A. degree program. The substantive portion of the examination may also indicate specific sub-field deficiencies, in which case the student will be directed to take steps, including specific courses, to correct them.

Master's Degree Program

A student approved for the M.A. program will select a three-person faculty committee to assume major responsibility for advisement and future guidance. For details on the procedures involved, the student should first consult with the director of graduate studies.

In addition to Graduate School regulations, the following provisions apply for the M.A. degree. (1) Completion of a total of 30 hours of graduate course credit; only three credits in Anthropology 599 may be counted toward this minimum. (2) Instead of a thesis, one may submit a published paper, or a

paper accepted for publication in an approved professional journal; or one may be authorized to substitute a research paper for a thesis or published paper. (3) In addition to copies required by the Graduate School, one copy of the M.A. thesis, published paper, or research paper must be deposited with the department.

CONSERVATION ARCHAEOLOGY

The M.A. with a concentration in conservation archaeology is designed to meet the need for anthropologically trained archaeologists in the administration and direction of practical programs in conservation archaeology.

Requirements for this concentration are identical to those for any M.A. in anthropology, with the following exceptions: (1) Students need not take the linguistics section of the preliminary examination's second part. (2) A special oral examination is required. (3) Statistics may be substituted for the foreign language requirement. However, any student entering the Ph.D. program after obtaining an M.A. degree with this concentration must meet the foreign language requirement. (4) In conjunction with the course and distribution requirements for the M.A. degree, conservation archaeology students are responsible for Anthropology 400c, 406, 430a, 576, 6 hours of 590, and 3 hours of 599.

In addition to regular courses and seminars, the student is expected to engage in field and laboratory work. Archaeologists in the department and the Center for Archaeological Investigations involve conservation archaeology students in their contracts with private corporations and federal, state, and municipal governments.

Additional information on the organization and requirements of the conservation archaeology concentration may be obtained from the coordinator for conservation archaeology, Department of Anthropology.

Doctor of Philosophy Degree Program

After completing the master's degree or equivalent, the student applies directly to the Graduate School for admission as a doctoral student. Three letters in support of the application should be forwarded to the director of graduate studies in the Department of Anthropology.

Late in the spring semester of the first year after being admitted to the Ph.D. program, the students are given a written preliminary examination over their choice of three of the four major sub-fields of anthropology. Students who fail the examination will be dropped from the program. Students who pass the preliminary examination will form a faculty committee; for details on the procedures involved, students should first consult the director of graduate studies.

The requirements for the Ph.D. degree include: (1) Additional coursework in anthropology and other fields within the student's interests; the Ph.D. committee is expected to help formulate a study program that will usually involve at least an additional academic year of full-time course work beyond the M.A. (2) Research tool requirements will vary and will be determined between the student and the committee; in all cases a reading knowledge of at least one foreign language will be required, but other tools could include, for example, computer science, statistics, biometrics, a second language, or any combination of these. (3) Within a period not to exceed three years of full-time graduate work, the committee will administer a three-hour special oral examination covering topical and geographical specialties. The student may not take the examination until two years of full-time graduate work have been completed, except by authorization from the dean of the Graduate School. In evaluating the examination, the committee may pass the student, fail the student but

allow a retake of the examination at a later time, or fail the student and request dismissal from the program.

Ph.D. Candidacy. After completion of the above requirements, the department will recommend a student to the Graduate School for candidacy. The candidate will normally undertake problem-oriented field research to acquire materials for the dissertation. Candidates must register for 24 hours of credit under Anthropology 600.

When the dissertation has been accepted by the Ph.D. committee, an oral defense will be held in accordance with Graduate School requirements. Two copies of the dissertation must be filed with the Graduate School and one with the Department of Anthropology.

Art

In all of its graduate studio programs, the School of Art strives to maintain a vital, creative ambience in which emerging artists with strong motivation may develop, through intensive studio practice and appropriate scholarly support, a clear, mature, and professional focus to their creative life. The core of any program is the in-depth studio practice of individual studio disciplines and frequent, sustained contact with working professional faculty and fellow students. This work is supported and extended through formal studio course work, studies in the history of art, and through access to the many resources and opportunities apparent in a large multi-purpose university.

The School of Art offers graduate studies leading to the Master of Fine Arts degree in art with a concentration in studio, and offers studies constituting a teaching specialty in art for the Master of Science in Education degree in secondary education. The student is expected to select an area of study (studio or art education), and a program will be planned in consultation with the major professor in that area.

Admission

An undergraduate degree in art or art education, or the equivalent in course work or experience if the undergraduate degree is in another discipline, is required for admission into the Master of Fine Arts degree program. The student must also submit transcripts of all previous undergraduate work, present slides or a portfolio of creative work, and may submit letters of recommendation.

In most cases an undergraduate degree in art education is required for admission into the program constituting a teaching specialty in art for the Master of Science in Education degree in secondary education. Any exception to these requirements must be approved by the faculty in the studio or art education fields and by the director of the School of Art.

M.F.A. Degree

Credit hour requirements for the Master of Fine Arts degree in art with a concentration in studio (painting, drawing, printmaking, sculpture, sculpture/foundry, ceramics, ceramics/glass, metalsmithing, metalsmithing/blacksmithing, fibers, and fibers/weaving), are a minimum of 60 semester hours, and all hours that are to count towards graduation must have the approval of the student's major adviser in studio specialty. The length of time required to complete a 60 semester hours program is usually 5-6 semesters or 3 academic years. Most graduate students are in residence for at least 4 semesters. Programs of residency must have the approval of the student's major adviser.

Required hours are distributed as follows: 26 hours in the major field (studio specialty), 12 hours in art history or related subjects, 6 hours in thesis or terminal project work, and the remainder in electives. Elective hours may be completed within any discipline in the School of Art, or in the University at large.

In addition to the completion of course work, all candidates for the M.F.A. degree must, during the last semester of academic work, present a graduate exhibition, present a terminal project or a written thesis, and pass an oral examination. The terminal project is a creative activity presented in lieu of the written thesis, and in practice, the graduate exhibition is considered to satisfy the terminal project requirement.

Graduate education in studio specialties is expensive, and because of the individual nature of creative work, it is virtually impossible to predict the exact cost for each student. The School of Art provides the faculty, and the studio and shop facilities that are necessary to the programs offered, but all other costs, especially materials, that are considered necessary to the successful completion of a graduate program are borne by the student.

Art as a Teaching Specialty

The Master of Science in Education degree in secondary education with a teaching specialty in art requires a minimum of 30 semester hours of graduate credit. Two art education program options are available: (1) the research option for those interested in research, supervision, or eventual doctoral studies, and (2) the teacher-studio option for improving teaching and studio skills.

The research option requires 13 hours in education, 11 hours in art education, 3 hours of thesis (or research paper) with the remaining hours for art electives. The teacher-studio option requires 13 hours in education, 6 hours in art education, 3 hours of thesis (or research paper) with the remaining hours for art electives. All hours that are counted toward graduation and election of either a thesis project or a research paper must have the approval of the art education graduate adviser.

Behavior Modification

(See Rehabilitation Institute for program description.)

Biological Sciences

A student may pursue a program of studies leading to the Master of Science degree in biological sciences.

Requirements for Admission

1. Bachelor's degree with a major in a natural science department.
2. Admission to the Graduate School.
3. Approval of the director, graduate program in biological sciences.

Requirements for the Master of Science Degree in Biological Sciences

The student must complete 40 hours of graduate courses in the biological sciences. Special courses required of any student are to be determined by consultation between the student and the program committee, with the following provisions:

1. No more than 24 hours of credit in any one department may be used for the degree.

2. No minor is required.
3. Have at least 15 hours of credit in 500-level courses. These may not include more than 3 hours for special problems, 3 hours for seminars, and 2 hours for readings.
4. Complete at least one 400- or 500-level laboratory course in three of the departments of the biological sciences.
5. Submit a research paper.
6. Attend, for credit, at least one semester of seminar in three of the departments of the biological sciences.

Advisement

Guidance of students shall be by a program committee of three members, one from each of the biological science programs involved, or other departments at the discretion of the program committee. The program director will serve as an ex-officio member.

Graduate work may be taken in the Departments of Botany, Microbiology, Physiology, and Zoology to obtain a Master of Science degree in biological sciences in the College of Science.

Additional information may be obtained from: Coordinator of the Biological Sciences Programs, Dean of the College of Science Office, SIUC, Carbondale, Illinois 62901.

Botany

The Department of Botany offers a well-balanced graduate program leading to the degrees of Master of Arts, Master of Science, Master of Science in biological sciences, Master of Science in Education in biological sciences, and the Doctor of Philosophy.

The areas of concentration are those of the broadly diversified faculty which characterizes the department and faculty members of other departments who participate in joint programs. All areas of botany are represented. The departmental master's programs and the doctoral program are based on a combination of course work and research. An advisory committee of faculty members from botany and other selected departments is responsible for the degree program of the individual student. At some stage in their overall programs, all students granted a degree will have completed training equivalent to one or more courses in each of six areas of botany (morphology, anatomy, taxonomy, genetics, plant physiology, and ecology).

The Department of Botany is housed in modern facilities in the Life Science II building. Each faculty member provides laboratory facilities for the students as part of the research program, and the department provides centralized facilities, including a growth chamber suite, herbarium, greenhouse complex, and field stations. Several University-owned field station facilities are located in southern Illinois, and University-affiliated field programs are carried out in the British Virgin Islands. Excellent cooperative research arrangements are available with other departments for such activities as electron microscopy, chemical analyses, and research photography.

A distinguishing feature of the Department of Botany is its congenial atmosphere. Individuals are encouraged to develop their own programs and research activities within the scope of available resources or those which can reasonably be attained. The first master's degree was granted in 1948, and the first Ph.D. in 1965. All areas of botany have been represented in the course of the department's history, with some shifts in emphasis according to both changing interests within the scientific disciplines and changes in the faculty and student population.

Graduate degrees in botany will be awarded to students in recognition of their ability to do independent research as evidenced by the acceptance of a thesis or dissertation and by the demonstration of competent scholastic ability. Teaching experience in undergraduate courses is expected as part of the Ph.D. degree program.

Admission

Students must be admitted to the Graduate School before they can be considered by the department. All applications to the department must include three letters of recommendation, application form, G.R.E. scores including verbal, quantitative, and advanced biological, and may include a financial assistance form. Criteria for admission include grade point average, letters of recommendation, and availability of faculty, space, and facilities.

Applicants must have completed a course (or equivalent) in each of the following areas (these may be completed concurrently with work toward the degree): (a.) general botany, (b.) plant diversity (survey of the plant kingdom), (c.) plant physiology, (d.) plant taxonomy, (e.) ecology, (f.) genetics, (g.) additional requirements for the B.A. degree as specified by the College of Science in the current Undergraduate Catalog of Southern Illinois University at Carbondale.

A student deficient in three or fewer of these areas (a through g) must be admitted with conditional standing. A student admitted with conditional standing must make up all deficiencies within the first academic year, and until such deficiencies are completed, no more than 10 academic units can be accrued toward the degree. Students lacking four or more of these areas must register as unclassified.

All deficiencies must be made up through the taking of pertinent undergraduate courses for credit with a grade of *B* or better in each.

Students desiring financial assistance should note that the deadlines for fellowship and assistantship applications are February 1 and March 1, respectively. Application forms are available from the director of graduate studies in the Department of Botany.

Advisement

Following admission to the department and before registration for course work, the student must consult a staff member representing the field of major interest or, if this is unknown, the director of graduate studies of the department, for assistance in planning first registration. At every registration, deficiencies and specific departmental requirements must be considered first. Any changes in registration must be approved by the student's adviser.

Within the first six months of admission into the departmental program, the student must select a faculty member who is willing to serve as the major adviser. The major adviser in consultation with the student, the director of graduate studies, and the departmental executive officer will then select an advisory committee with the major adviser as chairperson. For the master's degree program, a minimum of three people shall make up the advisory committee. At least half of the committee must be comprised of members of the botany faculty. The advisory committee for the Ph.D. program will be composed of at least five people, three of which must be botanists and one which must be from outside the department.

Following establishment of the advisory committee and before advance registration for the third term, the student will meet with the committee to discuss the program of courses for the degree and plans for research. In this regard, the committee is empowered to require work in fields with which the student's interests are allied. The advisory committee will advise the student

on the selection of readings on general and historical topics of importance which may not be encountered in formal courses. Copies of the approved program of courses and the plans for research must be placed in the departmental files.

Research and Training Assignments. Research is required of each student in the program. In addition, each term the student must be engaged in a training assignment which supplements formal course work by professional activities such as research or teaching. The assignment varies according to the needs, professional goals, and competencies of the student, and increases in responsibility as the student progresses. The assignments require from 10 to 20 hours of service per week.

Academic Retention

In addition to the retention policies of the Graduate School, the Department of Botany requires that each student must maintain an overall grade point average of 3.0 ($A = 4.0$). Upon falling below this average, the student will be allowed two academic terms to bring the average up to 3.0; failing this the student will be dropped from the program and not be allowed to re-apply. No course in which the grade is below *C* shall count toward the degree or fulfillment of any requirement, but the grade will be included in the grade point average. No more than five hours of *C* work in graduate courses will count toward the degree.

All students are subject to regular review by the department's graduate policies committee. Those not attaining the minimum acceptable academic standards or who in any way fail to meet any other scheduled requirements or standards will be dropped as majors.

Course Requirements

All master's degree students must earn a minimum of two hours credit in botany seminars (Botany 580 or Botany 589), at least one of which must be in general seminar (Botany 580). All Ph.D. students must earn two hours credit in botany seminar (Botany 580 or Botany 589) every year of residence until admitted to candidacy and at least one credit each year must be in general seminar (Botany 580). It is strongly recommended that the student enroll in general seminar(s) dealing with subjects other than the general area of emphasis being pursued. Attendance in general seminar (with or without credit) during every semester is strongly recommended.

Those students who have not already taken a course in plant anatomy must include Botany 400 (Plant Anatomy) in their graduate degree program.

Appeals

Appeals for variations from the departmental graduate program must be presented in writing to the botany graduate faculty meeting as a committee of the whole. Appeals must receive approval from a majority of the total botany graduate faculty.

Appeals for changes in the student's graduate advisory committee or changes in the original program must be approved in the following order: (1) approval from adviser, (2) approval from remaining members of the student's advisory committee, (3) approval from graduate policies committee.

Student appeals for change of major adviser must be presented in writing to the botany graduate faculty meeting as a committee of the whole. Appeals must receive approval from a majority of the total botany graduate faculty.

The Master's Degree

A minimum of 30 hours of graduate credit is required beyond the bachelor's

degree, including no less than 22 hours of botany courses, 10 hours of which may be research and thesis, and 3 hours of which may be seminar. A graduate minor of at least 10 graduate hours may or may not be required; this is to be determined by the student and the advisory committee. The M.A. degree requires an additional minimum of passing ETS examination in a foreign language or taking the appropriate 488a and 488b course and earning a grade of *B* or better in each. At the time of completion of the thesis, the student must schedule a public presentation of the thesis material (this is in addition to the comprehensive examination).

The Ph.D. Degree

Courses. The major shall consist of a minimum of 20 semester hours at the 400 and 500 levels in formal botany course work beyond the master's degree but excludes seminar, readings, research, dissertation, and research tool requirements.

The decision as to whether a minor shall or shall not be required shall be left to the student's advisory committee. If the committee requires a minor, it will determine the specifications of that minor.

The student shall demonstrate knowledge in each of the two foreign languages by passing an Educational Testing Service examination or taking the appropriate 488a and 488b course and earning a grade of *B* or better in each. The ETS passing level for French and German shall be 465 and the ETS passing level for Russian and Spanish shall be 440. Proficiency in (a) statistics, (b) computer programming, or (c) scientific photography and scientific illustration may be required in lieu of one of the languages or in addition to the languages if the advisory committee so rules. A research tool to be substituted for one language must be completed utilizing formal courses consisting of at least two terms (at least 6 hours) with an average grade of *B* or better. Courses used to satisfy the requirement shall not be applied toward the total number of hours required for the degree.

Preliminary Examination. The student's advisory committee shall serve as the preliminary examination committee and shall prepare and administer the examination which will be both written and oral.

The written examination will be taken first and will cover the candidate's knowledge of botany and related fields and their history, the student's accomplishments in the course of study outlined, and the student's progress in the special field. The candidate will be expected to show an understanding of the application of his or her formal work to his or her field of research. The written examination will consist of three parts: the first will include questions in the student's special field of interest, the second will include questions testing basic knowledge in botany, and the third will include questions in the student's outside minor field or secondary concentration within botany.

The entire written examination is to last no longer than 5 days and each part is to last no longer than 8 hours. The student must pass all parts of the written to proceed to the oral examination. Pass means sufficient information is evident to permit the student to proceed to the oral part of the examination.

In order to pass the written examination, the vote of the advisory committee will determine (by majority vote) whether the student will be allowed to continue in the program and whether the student will be required to retake part or all of the written examination. Upon failing the written examination, the student may not retake the examination in the same academic term. In any event, the student must pass the written examination by the third attempt in order to continue in the doctoral program.

The oral examination will be taken no sooner than 10 days nor later than 30 days following the passing of the written examination. The examination shall

last at least 2 hours and no more than 4 hours and should be scheduled to allow attendance of a maximum number of the botany graduate faculty and all of the advisory committee members. The student's answers to the written examination will be made available to the graduate faculty in botany (upon request) prior to the oral part of the preliminary examination. All attending graduate faculty members will be given the opportunity to express their opinion on the examination. Passage of the oral examination must be by unanimous vote of the advisory committee and may have conditions.

Final Examination. The final examination will be oral. It shall be held at least one month before graduation and shall last for no more than 3 hours. It is to cover the dissertation and related subject matter. The advisory committee must notify the graduate adviser of its recommendation for the date of the final examination at least two weeks before the examination.

Passage of the final oral examination should be construed to mean that there be no more than one dissenting vote of the advisory committee. In the event of failure, a second examination may be held as directed by the advisory committee.

Business Administration

The graduate faculty in business administration, consisting of members of the Departments of Accountancy, Administrative Sciences, Finance, and Marketing of the College of Business and Administration, offers graduate work leading to the Master of Business Administration degree, the Master of Accountancy degree, and the Doctor of Business Administration degree.

Master of Business Administration

The Master of Business Administration degree program has as its basic objective the development of professional managers and executives to serve the needs of business, government, and other organizations and to prepare interested graduates for doctoral study. The program is designed to develop the individual's ability to comprehend internal and external social, legal, political, and economic forces as they affect the decision-making process within the organization. The program has been structured with flexibility so as to serve holders of baccalaureate degrees in business administration and those who hold degrees in other disciplines. The M.B.A. program is fully accredited by the American Assembly of Collegiate Schools of Business.

Admission Requirements

Prospective degree candidates are expected to demonstrate a readiness for graduate study and an aptitude for successful performance in graduate-level work in business administration. Admission to the program is based on the applicant's undergraduate record, a satisfactory score on the Graduate Management Admission Test, and other evidence pertaining to ability to perform well in graduate work in business administration.

1. Complete all admission requirements set forth by the Graduate School.
2. Complete the Graduate Management Admissions Test (Princeton test) and have the results of the test mailed directly to the associate dean for graduate programs, College of Business and Administration. Information regarding this test is available by writing to: Graduate Management Admissions Test, Educational Testing Service, Box 966, Princeton, New Jersey 08540.
3. An undergraduate cumulative grade point average of 3.00 is preferred, and

no less than 2.5 grade point average is permitted for admission. These averages are calculated on a 4.0 scale.

Degree Requirements

A minimum of 30 semester hours of course work is required. Students also must complete successfully (maintain at least a 3.0 average) BA 598, and four of the following courses: BA 501, 510, 530, 540, and 550. The course in business policy, BA 598 is taken during the student's last semester and includes a study of a number of comprehensive cases, managing aspects of a simulated business in a competitive environment and a final examination. Candidates who receive permission to write a thesis must complete a minimum of 27 semester hours of course work plus an acceptable thesis for which 6 semester hours of credit are assigned.

Students who enter the Master of Business Administration degree program without the necessary foundation courses in the common body of knowledge in business and administration as specified by the American Assembly of Collegiate Schools of Business must complete them in a satisfactory manner prior to starting the program of course work. These students may be required to complete as much as 30 additional semester hours of acceptable course work.

The Master of Business Administration program course work to be taken beyond the foundation courses is determined on an individual basis in conference with the associate dean for graduate programs, College of Business and Administration. Candidates must satisfy requirements in the following areas: business policy, financial management, managerial accounting, marketing, operations research, organizational behavior, and research methodology.

The candidate may select a concentration, not to exceed 15 semester hours of credit in accountancy, or 12 semester hours of credit in administrative sciences (personnel or production), finance, or marketing. The candidate may also choose courses in a wide variety of areas of graduate study throughout the University.

Transfer Credit

Within limits imposed by the policies of the Graduate School, transfer credit shall be permitted for up to nine semester hours for incoming students only, but under no circumstances can the stated minimal number of hours required within the program for graduation be reduced as a result of the acceptance of incoming transfer credit. A decision on whether to accept the course proposed for transfer credit shall be at the option of the associate dean for graduate programs, College of Business and Administration.

No transfer credit shall be permitted for any student who voluntarily departs from campus after beginning the program unless, and until, the student petitions the graduate programs committee of the College of Business and Administration stating the reasons for the request for transfer credit, and receives, from the committee, permission for the transfer. In any case the approved transfer credit may not exceed three semester hours but shall be counted in meeting the stated minimal number of hours required within the program for graduation.

Academic Retention

In addition to the retention policies of the Graduate School, a student enrolled in the M.B.A. program who receives a third grade of *C* or lower in graduate or deficiency courses shall be automatically dismissed from the program. If the third grade of *C* or lower is received in any term or session subsequent to, or concurrent with, the student having attained 24 or more semester hours of 500-level course credit, the student may petition the graduate programs com-

mittee of the College of Business and Administration for permission to remain in the program.

If, for any reason, students who at the end of any term or session have three outstanding recorded grades of either Inc or Def or any combination thereof remaining on their record shall not be deemed to be making normal progress and shall be placed on probationary status. If, thereafter, the students have three outstanding grades of either Inc or Def or any combination thereof remaining on their records at the end of any subsequent term or session, the students shall be dismissed from the program.

3-2 Program

A 3-2 program within the College of Business and Administration is available to qualified transfer students and students majoring in areas other than business. The program permits a student to devote a part or all of the last year of undergraduate study to fulfilling the foundation course requirements for the M.B.A. degree. Upon completion of the requirements for the bachelor's degree, the student may apply for admission to the Graduate School and the M.B.A. program.

Students majoring in any discipline within the College of Business and Administration are ineligible for participation in the 3-2 program. For details contact the associate dean for graduate programs, College of Business and Administration.

Concurrent J.D. and M.B.A. Programs

A student who has been admitted separately to the School of Law and to the graduate program in business administration may apply for permission to study concurrently for both the Juris Doctor and the Master of Business Administration degrees. This permission must be requested from both the School of Law and the graduate program in business administration, ordinarily prior to entry into the second-year curriculum of the School of Law.

During the first academic year of concurrent work on the two degrees, the student enrolls only in the first-year law curriculum. In any subsequent academic term the student may enroll either for courses only in the School of Law or only in the Graduate School, or for courses in both units. A student registered for both law and graduate courses in the same term must enroll for a minimum of ten semester hours in law, and twelve semester hours in total, in order to meet A.B.A. residence requirements and the academic requirements of the School of Law.

Completion of the concurrent programs requires that the student successfully complete 81 semester hours of law courses and 30 semester hours of courses that meet M.B.A. requirements. In addition, the student must fulfill all other requirements of the School of Law, the Graduate School, and the program in business and administration for the J.D. and M.B.A. degrees.

Doctor of Business Administration

The Doctor of Business Administration degree program is designed to prepare individuals for faculty research and teaching positions in academic institutions and for high-level administrative or staff positions in business, government, and other organizations. Candidates for the D.B.A. degree must demonstrate in-depth knowledge of business and administration and high potential to undertake significant research.

Admission Requirements

The application materials for those who meet Graduate School requirements for the doctoral degree are forwarded to the College of Business and Administration.

To be eligible for admission, students must have completed a master's degree or its equivalent and have a grade point average in all graduate-level work of at least 3.25 ($A = 4.0$). In addition, students must provide a copy of their score on the Graduate Management Admission Test, a completed D.B.A. Personal Data form, and three letters of recommendation from persons more qualified to judge the academic potential of the applicant.

The completed application materials will be reviewed in order to ascertain the individual's abilities and motivation to succeed at a high level in doctoral work. A personal interview may be required prior to a final decision on the applicant's admission to the D.B.A. program.

Degree Requirements

Students in the program must complete course work in certain foundation areas or demonstrate proficiency based upon prior academic work. A student who has completed successfully the requirements for the M.B.A. degree may ordinarily expect to meet the proficiency requirements in most foundation areas. The foundation work includes the following areas: financial and managerial accounting; management concepts and managerial and organizational behavior; business policy; intermediate micro and macroeconomics and managerial economics; financial concepts and financial management; the legal and social environment of business; marketing concepts and marketing management; quantitative business analysis and operations research. In addition, the student must demonstrate the ability to program using one of the following languages: Fortran, Cobol, RPG, PL 1, or ALGOL.

The student must complete a prescribed program of doctoral course work beyond the foundation work. A minimum of 60 semester hours is required: 12 hours in the D.B.A. core; 9-12 hours in a business discipline concentration; 6-9 hours in a support field; 9-12 hours of research tools; and 24 hours of dissertation credit. Additional hours may be required as prescribed by the student's advisory committee.

It is expected that all doctoral course work will be completed at Southern Illinois University at Carbondale. In exceptional cases, petitions may be considered to accept credit for doctoral course work done at other institutions.

In addition to the retention policy of the Graduate School, for the D.B.A. program the third grade below *B*, or the second grade below *C* in any graduate-level course not designated as a foundation course will result in automatic dismissal from the D.B.A. program without any right of appeal.

Advisement

For each student an advisory committee is constituted and approved according to procedures described in the *DBA Policies and Procedures Manual* of the College of Business and Administration. The advisory committee is responsible for developing and approving a program of study for the student which meets all requirements of the Graduate School and the D.B.A. program. The specific program is designed in terms of the individual student's career objectives.

Preliminary Examinations

The preliminary examination is designed to determine the breadth and depth of the student's knowledge within the discipline. A minimum of two years of study (48 semester hours) beyond the baccalaureate must be completed before the student is permitted to sit for the preliminary examination. Further, the D.B.A. core must be completed and the student must be in the last semester of all scheduled course work.

The preliminary examination has a written and oral portion. After successful completion of the written segment, the student will sit for the oral portion of

the preliminary examination. Students who pass the oral portion will be recommended for candidacy when the residency and research tool requirements have been met. Students who fail the preliminary examination, or any part thereof, may petition to re-take the examination or any part thereof. Specific conditions may be stipulated before the student can sit for the examination a second time. Those who fail the preliminary examination a second time will be dismissed from the program.

Dissertation

Upon admission to candidacy, a dissertation committee is constituted and approved according to procedures described in the *DBA Policies and Procedures Manual* of the College of Business and Administration. The dissertation committee will approve the student's dissertation prospectus and monitor progress in completing the dissertation. A final oral examination will be administered by the dissertation committee and will cover the subject of the dissertation and other matters related to the discipline. Upon successful completion of the final oral examination, the candidate will be recommended for the D.B.A. degree.

Master of Accountancy

The Master of Accountancy degree has as its basic objective the development of professional accountants to serve the needs of a variety of agencies including professional accounting firms, private industry, and governmental institutions. Students interested in doctoral study also would be prepared to pursue such advanced work. The Master of Accountancy (M.Acc.) degree is structured with flexibility to serve holders of baccalaureate degrees in other than business, or in business but not accounting, and those accounting undergraduates who desire more advanced study.

Additional information on admission and degree requirements can be obtained by contacting the Coordinator, Master of Accountancy Program, Department of Accountancy, College of Business and Administration, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Business Education

(See Vocational Education Studies for program description.)

Center for the Study of Crime, Delinquency, and Corrections

(See Administration of Justice)

Chemistry and Biochemistry

Graduate courses of study leading to the Doctor of Philosophy and Master of Science degrees in chemistry are offered by the Department of Chemistry and Biochemistry.

General Requirements: All Graduate Degrees

Admission. Each undergraduate student must have an undergraduate major in chemistry (including items 1 through 5) or present certification of credit or

its equivalent (earned either as an undergraduate or a graduate student) for the following in order to be eligible for admission to an advanced degree program:

1. General chemistry and one course of inorganic chemistry.
2. One year of organic chemistry (lecture and laboratory).
3. One year of analytical chemistry, including introductory instrumental techniques.
4. One year of calculus-based physical chemistry (lecture and laboratory).
5. No less than a formal course of one year's duration in one of the following languages, French, German, or Russian.

The Department of Chemistry and Biochemistry has always been interested in the best possible preparation for the professional careers of its undergraduate and graduate students. Toward that end it is generally recognized that students who obtain diverse academic experiences by obtaining their degrees from more than one college or university will have a superior education. Professional opportunity may also be enhanced by a demonstration of academic achievement at more than one university. Therefore, it is the policy of the department to discourage SIUC undergraduates from entering our graduate program in chemistry. Faculty and the chairman of the admissions committee will advise students in compliance with this policy and be particularly diligent in such counsel when a student is completing a master's degree following an SIUC bachelor's degree. This policy replaces previous policy pertaining to admission of SIUC undergraduates to graduate degree programs.

Diagnostic Exams. All graduate students admitted to the master's degree program in chemistry and biochemistry will be required to take diagnostic exams on entering. The decision as to whether ACS standardized exams or an internal exam is used is a matter for each divisional area to decide. The student must choose at least three areas in which to take the diagnostic exams. The student must show proficiency in undergraduate material in three divisional areas of chemistry by passing three diagnostic exams or by earning a grade of *B* or better in appropriate courses designated by the divisions.

Divisional Core Course Requirements. Each division has designated a set of courses which will form the core curriculum for students majoring in that area and which will constitute a minimal divisional requirement for students in that area.

Evaluation. All graduate students will be evaluated at the end of their second semester (excluding summer sessions) in residence for retention purposes. Students having G.P.A.'s less than the departmental minimum required for graduation will either be terminated or given specific objectives related to the improvement of their G.P.A. to be achieved within a specified time. All graduate students in the master's degree program will be evaluated at the end of their fourth semester (excluding summer sessions) in residence to determine whether they can proceed via a master's equivalency to the doctoral program or whether they must complete a master's degree prior to a decision being made on their admission to the doctoral program.

Research Tools. There is no departmental requirement of research tools. However, a student's graduate committee, taking into account the student's background and the requirements of the research area, may require a student to acquire one or more research tools (e.g. foreign language, computer programming, statistics, etc.).

Research, Practicum, and Training Assignments. All graduate degree pro-

grams require research. In addition, the student, each term, must work on a professional training assignment. This assignment may include practical teaching of chemistry, special training in the operation of research instruments, or assignment to a specific research project. The assignment varies according to the needs, professional goals, and competencies of the student. The student is required to enroll in Chemistry and Biochemistry 597—Professional Training—for one credit hour each semester in residence.

Requirements for Master of Science Degree

In addition to meeting the general requirements of the Graduate School, a candidate for the Master of Science degree in chemistry is required to:

1. Fulfill divisional core course requirements.
2. Take at least three semester hours of formal 500-level course work for credit in a divisional area other than their major area (for the purposes of this requirement Chemistry 451a and Chemistry 451b can be substituted for 500-level courses).
3. Earn 27 hours credit in chemistry courses, or 20 hours in chemistry if an outside minor is elected. A total of 30 semester hours is needed for graduation of which 15 hours must be at the 500 level.
4. Maintain a 3.00 grade-point average.
5. Attend weekly seminars and earn one hour credit (Chemistry 595) by presentation of a seminar.
6. Earn a minimum of 8 hours in research and thesis (Chemistry 598 and 599).
7. Demonstrate competence in a research tool if required by the student's committee.
8. Prepare and present a thesis on the research carried out.
9. Schedule and pass a final oral examination. Copies of the thesis must be distributed to the members of the graduate committee at least one week prior to the examination.

Requirements for Doctor of Philosophy Degree

Students entering the Ph.D. program must either have a master's degree in chemistry or must have a master's equivalency as defined by the Graduate School. In addition, all students in the Ph.D. program must:

1. Fulfill divisional core course requirements.
2. Take at least six semester hours of formal 500-level course work in one or more areas outside of their major area. This includes the three hours required for the master's program. Three of these hours may be taken in another department in which case three semester hours of either 400- or 500-level coursework in that department will be required (for the purposes of this requirement Chemistry 451a and Chemistry 451b can be substituted for 500-level courses).
3. Complete a course of study as determined by their graduate committee.
4. Earn one hour credit in seminar (Chemistry 595) beyond the master's degree requirement, and attend weekly seminars.
5. Earn a minimum of 32 hours in research and dissertation (Chemistry 598 and 600).
6. Pass cumulative examinations.
 - a. After having fulfilled all the core course requirements candidates may begin taking cumulative examinations. Graduate students holding a master's degree in chemistry may proceed with the cumulative examinations in those areas in which they have passed the diagnostic examination.
 - b. Students may elect to take cumulative examinations in their major area only, or they may elect to take cumulative examinations in different

areas. If the latter course of action is elected, the chemistry department graduate advisers must be informed of the intention to pursue a cross-area curriculum at the time the research director is selected. It is the responsibility of the student's graduate committee to determine how the cumulative examinations are to be divided among the several areas. However, in no case can the total cumulative examination requirement be less than stipulated below.

c. Ten examinations are to be given each calendar year with four examinations respectively in the fall and spring semester and two examinations in the summer semester. Cumulative examinations may be written examinations not to exceed two hours in length. Take-home examinations, laboratory examinations, or oral examinations may be substituted for a written examination. All areas will give their examination simultaneously. The time and place for the examination will be posted at least ten days before an examination. The subject of an examination may be announced in advance of the examination. Students must register to take the examination at least one week before it is scheduled.

d. Students must pass five examinations in no more than fourteen trials in order to continue for the Ph.D. degree. Students must take consecutive examinations. They are urged to begin as soon as they are eligible. They are not liable for examinations during any time they are not enrolled in school.

e. Each examination is to be prepared, administered, graded, and recorded by one member of the faculty who will determine the pass-fail line on that examination. Students taking the examination will be notified in writing whether or not they passed the examination. One copy of this notification will be filed with the graduate adviser and a second will be placed in the student's file by the cumulative examination coordinator.

7. Pass preliminary oral examination following completion of the cumulative examination requirements.
8. Maintain a 3.25 grade-point average.
9. Demonstrate competence in a research tool, if this is required by the student's committee and if this requirement was not fulfilled during previous graduate studies. This requirement must be fulfilled prior to scheduling the preliminary oral examination.
10. Complete the dissertation following the specifications set forth by the Graduate School.
11. Schedule and pass a final oral examination (defense of dissertation). Copies of the dissertation must be distributed to the members of the graduate committee at least one week prior to the examination.

Cinema and Photography

The Department of Cinema and Photography is recognized as one of the outstanding departments of its kind in the country. For example, in 1972 the Professional Photographers of America honored seven departments for the quality of their academic photographic programs. The SIUC Department of Cinema and Photography was one of the departments so honored. In 1978 twelve cinema departments were chosen as the most outstanding in the country and were invited to form the first organization of film schools, The National Ad-Hoc Forum of Schools of Film/Video. The Department of Cinema and Photography was a founding member of this organization. Cinema and photography students frequently win awards in national film festivals and photographic competitions.

Teachers in the department offer a wide range of practicing professional backgrounds and expertise. Programs in still photography range from silk-screen to industrial photography; from portraiture to advanced experimental. Programs in film range from history of the documentary to advanced history and theory; from animation film making to narrative film production.

The Master of Fine Arts degree in cinema and photography is intended to provide substantial advanced training to a small number of highly talented individuals. Emphasis in the program is upon the artistic development of the individual student and the student's creative utilization of cinema or photography. Within the program students can elect to specialize in cinema production, professional photography, or fine arts photography.

Acceptance in the program and subsequent continuation in it are at the discretion of the Graduate School and the Department of Cinema and Photography. Minimal admission requirements are those of the Graduate School. Students should contact the department regarding admission procedures. Prior to admission to the program, students must satisfy the departmental faculty that they are artistically qualified by presenting evidence of exceptional talent in one of the three areas of specialization offered in the degree program. This evidence will ordinarily consist of a portfolio of photographs or one or more films. In addition, applicants must arrange for three letters of recommendation to be forwarded in support of their application. It is assumed that most of the students applying for admission to the M.F.A. program will be graduates of institutions other than Southern Illinois University at Carbondale. All such students would ordinarily provide evidence of having completed training of a thoroughness and quality equivalent to that offered in the undergraduate program of the Department of Cinema and Photography. Students with an M.A. or M.S. degree will also be considered for admission. It is recommended that students wishing to specialize in still photography have a course-work background equivalent to Cinema and Photography 310, 311, 320, and 322. It is recommended that students wishing to specialize in cinema have a course-work background equivalent to Cinema and Photography 355, 356, and 368.

In addition to the above admission requirements, an interview with the department's graduate committee is highly recommended, particularly for students with minimal course work in the field.

A graduate student entering the M.F.A. program is normally expected to spend the equivalent of two academic years fulfilling required work. If the student lacks adequate course work preparation, or if the student serves as a graduate assistant, a longer period may be required. Normally the first year would be spent completing advanced course work in the Department of Cinema and Photography and other departments. Students' creative work and artistic abilities are reviewed at the end of their first year in the program. If the faculty should conclude that a student has not made sufficient progress, such a person would be dropped from the program. In the second year of residence, each student would be engaged in a great deal of independent artistic work culminating in the M.F.A. creative project, involving the completion of one or more photographic exhibits or the completion of one or more motion pictures. The exact nature of the project would be determined in consultation between students and their committees. All creative projects would have to be exhibited publicly and be subject to criticism from both within and without the program before the department would consider this requirement satisfied.

The department chairperson appoints in consultation with the student, a major adviser and a committee of two additional graduate faculty members. This committee develops a specific plan of study with the student, considering not only the requirements of the Graduate School and of the degree program,

but also the goals of the student. The major adviser supervises the creative project. The University reserves the right to retain a portfolio of each student's work. An oral examination by the faculty advisory committee would focus on an evaluation of the project. A formal report describing the project must be filed with the Graduate School.

Degree requirements are 52 semester hours, including 26 hours at the 500 level, and 12 hours of production courses in the area of specialization during the first year in residence.

Course Requirements

Professional Photography Specialization—four of the following:

- CP 403-3 Studio Portraiture
- CP 405-3 Commercial/Industrial Photography
- CP 406-3 Advertising/Illustrative Photography
- CP 407-3 Publications Photography I
- CP 408-3 Publications Photography II
- CP 415-3 Technical and Scientific Photography
- CP 418-3 Documentary Photography
- CP 470B-1 to 9 Advanced Studies in Photography

Fine Arts Photography Specialization—four of the following:

- CP 420-3 Experimental Camera Techniques
- CP 421-3 Experimental Darkroom Techniques
- CP 422-3 Advanced Color Photography
- CP 423-3 Reconstruction of Color
- CP 425-3 to 9 Studio Workshop

Cinema Production Specialization:

- CP 455-3 Film Production III
- CP 456-3 Film Production IV
- CP 468-3 Advanced Film Theory
- CP 470A-1 to 9 Advanced Studies in Cinema

Fifteen hours in a supporting field. This could consist of course work in a single field or be an interdisciplinary minor. In all cases, the students would design the supporting field and supply a rationale describing how it would contribute to their artistic development.

Four hours of the M.F.A. Seminar (Cinema and Photography 595).

At least 6 hours of M.F.A. Projects (Cinema and Photography 597).

At least 9 hours of Cinema and Photography electives. Beyond the 400-level C&P courses, the following courses would be acceptable to satisfy this requirement.

- PVC 541A-3 Seminar: History of Photography
- PVC 541B-3 Seminar: History of Photography
- PVC 542A-3 Seminar in Film History
- PVC 542B-3 Seminar in Film History
- PVC 572A-2 Management of the Photographic Unit
- PVC 572B-2 Management of the Photographic Unit
- PVC 574-3 Contemporary Film Theory

Completion of an M.F.A. creative project (registration for at least 6 hours in Cinema and Photography 598 required).

An oral final examination over the M.F.A. creative thesis.

Communication Disorders and Sciences

The Department of Communication Disorders and Sciences offers graduate work leading to the Master of Science and Doctor of Philosophy degrees in

speech pathology and audiology. The program at the master's level is designed to develop a high level of competence in the assessment and treatment of persons with communication disorders. The Ph.D. program has as its objective the training of advanced students to become researchers and educators in concentrated areas in speech/language pathology and audiology.

Course work at the master's level should be planned to meet the academic and professional requirements for state and national certification, which are required for professional employment, depending upon one's goal in placement. The M.S. degree program should culminate in eligibility for one or both of the following certificates: (a) the special certificate in speech and language impaired of the Illinois State Teacher Certification Board; (b) the Certificate of Clinical Competence of the American Speech-Language-Hearing Association. ASHA certification is usually required for work in agencies, hospitals, medical centers, academic settings, etc. The program in clinical training is approved and registered with the Education and Training Board of the American Board of Examiners in speech/language pathology.

Essentially, the departmental program matches the program requirements of the American Speech-Language-Hearing Association, which state that the student must complete a well-integrated program comprised of a minimum of 60 semester hours, including normal aspects of human communication, development thereof, disorders thereof, and clinical techniques for evaluation and management of such disorders. Thirty of the sixty hours must be in courses that are acceptable toward a graduate degree by the university in which they are taken.

GRE aptitude test scores must be submitted upon application. While they are not mandatory for admission, the scores must be submitted no later than the end of the first semester of residence.

A number of graduate assistantships and fellowships are made available by the College of Communications and Fine Arts and the Graduate School each year. The assistantship awards of the College of Communications and Fine Arts are usually made in the spring for the following academic year by the department. Students may also apply through the department for graduate fellowships and dissertation research grants that are awarded annually by the Graduate School.

Professional experiences for graduate students are provided in a variety of clinical settings: the University's clinical center; a summer residential camping program for persons with organic speech problems; the V.A. Hospital in Marion; nursing homes; and Anna State Hospital. Cooperative programming is maintained with other public and private agencies such as the Division of Vocational Rehabilitation, the Easter Seal Society, the National Association of Speech and Hearing Agencies, and the University of Illinois Division of Services for Crippled Children. Students participate in traveling speech, language, and hearing clinics which serve schools and communities through the media of surveys, diagnostic examinations, and therapy.

Specialized experiences with orthodontists, prosthodontists, plastic surgeons, otologists, and others of the medical and dental professions are available in the St. Louis and Chicago areas as well as the medical school at Southern Illinois University at Carbondale and the dental school at Southern Illinois University at Edwardsville. Emphasis is on interdisciplinary relationships with other professions throughout the training process.

The department maintains many active research facilities which provide laboratories and specialized equipment for the study of both the normal and impaired functions of the speech, language, and hearing processes. The speech science laboratory is equipped for electromyographic study of the speech musculature, radio telemetry, electrophysiology of hearing, and spectrographic

analysis of speech signals. The experimental audiology laboratory, which includes a large anechoic chamber, is equipped for investigations in air and bone conduction sensitivity, localization, and speech discrimination. The laboratory also has the needed equipment for studies in automatic audiometry, PGSR, middle ear impedance, and aural reflex experimentation. This laboratory also has equipment for the measurement of physiological indices of emotion, such as units for palmar sweat and electrophysiologic skin measurements. The department maintains its own computer terminal and shares in the use of PLATO terminal. The availability of sophisticated instrumentation has made programmatic approaches to language research problems possible in the language laboratory. The department also maintains extensive materials and a laboratory for cleft palate.

Additional information regarding financial aid, programs, and application procedures can be secured by writing to the chairperson, Department of Communication Disorders and Sciences, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. Inquiries from qualified graduates in other fields are welcomed, particularly those interested in interdisciplinary programs.

Master's Degree

The master's degree requires a minimum of 30 semester hours of acceptable graduate credit (3.0 average), at least 15 semester hours of which are at the 500 level, and the completion of an approved thesis or research paper. Specific course requirements and total number of hours are generally determined by advisement after consultation with the graduate student.

Students are encouraged to follow one of the following plans:

Predoctoral (thesis) Program.

Professional Courses: 15

CDS 505, 507, 510, 512, 420.

Research Tools: 9

CDS 500 and 431 or 503: 6

Research Design or Statistics: 3

Electives: 3

CDS 3 hours selected from 407, 408, 431, 503, 517, 521, 525, 526, 528, 529, 533, 536, 540, 541, 544, 548, 550.

Thesis: 3

Total: 30

Terminal (nonthesis) Program.

Professional Courses: 14

CDS 505, 507, 510, 512, and 407 or 408.

Research Tools: 9

CDS 500, and 431 or 503- 6

Research Design or Statistics- 3

Electives: 6

CDS 6 hours selected from 407, 408, 431, 503, 517, 521, 525, 526, 528, 529, 533, 536, 540, 541, 544, 548, 550.

Research Paper: 1

CDS 593.

Total: 30

It is recommended that students plan their programs to meet the academic and practicum requirements for the Certificate of Clinical Competence in speech/language pathology or audiology as designated by the American Speech-Language-Hearing Association and for the special certificate in speech and language impaired for the Illinois State Teacher Certification Board. Both

certificates require a minimum of 300 hours of direct supervised clinical contact. The State certificate requires that 100 of the 300 hours be in a public school setting. The College of Education is entitled to certify students for the public schools; the Department of Communication Disorders and Sciences is entitled to certify students for the American Speech-Language Hearing Association. Before graduation, a comprehensive examination as required by the Graduate School will be given by the faculty. This examination is generally scheduled after the student has completed two semesters of full-time work.

Doctor of Philosophy Degree

Students, after consultation with their academic advisers, are expected to propose to the graduate faculty of the department the academic program they intend to pursue prior to taking the preliminary examination for admission to candidacy. The proposed program must meet the Graduate School requirements for residency, and shall exclude course work designed to meet the research tool requirement. The program must also include a cognate area which will assure a meaningful competence in subject matter outside the student's major department. Graduate faculty approval of the proposal signifies an agreement between the student and the department. Students are encouraged to use the following plan in designing their programs:

Doctoral Programs.

Professional Concentration Area: 15

Area A: Speech Rehabilitation 15 hours from 510, 512, 528, 533, 536, 540, 541, 544, 548 or:

Area B: Language Rehabilitation 15 hours from 505, 507, 517, 533, 536, 540, 541, 544, or;

Area C: Hearing Rehabilitation 15 hours from 521, 525, 526, 528, 529, 533, 536.

Requirements Outside of Concentration: 9

Communication Disorders and Sciences 9 hours to be selected from areas other than concentration (See areas A, B, C above).

Basic Core Program: 7

CDS 503: 3

CDS 550 (1, 1, 1, 1): 4

Cognate Area: 6

Research Tool (See description that follows).

Dissertation: 24

CDS 600 and/or 601

Total: 61

After satisfactory completion of a majority of the course work inside and outside the concentration area, the basic core courses and the cognate requirements, students may request the preliminary examination. The preliminary examination shall be written and administered by no fewer than 5 graduate faculty members representing the concentration, cognate, and research interests. Should students fail the first examination, they may, with faculty approval, repeat the examination once within a 12-month period.

After successful completion of the approved academic program, research tool, and the preliminary examination, the student will be recommended to the Graduate School for admission to candidacy for the degree. The candidate must then complete a dissertation showing capability in independent research.

The final examination for program completion shall be oral and cover the subject of the candidate's dissertation and related academic and professional matters.

Research Tool. The research tool shall replace neither a required nor a prerequisite element of the student's proposed academic program and must be completed before the student will be permitted to take the preliminary examination for admission to candidacy.

The student must demonstrate an ability to deal with descriptive and inferential statistics and research design techniques. Ordinarily this will be accomplished by completing an appropriate sequence in statistics, as approved by the graduate committee of the Department of Communication Disorders and Sciences. Competency will be demonstrated by achieving a *B* average in the course sequence, or by proficiency. The sequence should be considered to be outside of any specific degree requirement.

Community Development

Community development is a program of graduate studies in the applied social sciences leading to the Master of Science degree.

Community development practitioners share a common concern; the alleviation of social problems through community and social change. This concern is expressed through a range of professional activities such as organizing tenant unions, training officers of consumer co-operatives, negotiating foundation grants for community cultural centers, designing community education outreach programs, or researching community issues.

Most community developers are both specialists and generalists—specialists in the sense that they possess technical knowledge and experience in such fields as economics, education, ecology, agriculture, urban affairs, administration, planning, or research; but generalists in their understanding and skill in facilitating processes of social change. Their process skills of working with people have made community developers indispensable to a large number of public and private programs. By developing organizations and institutions through which citizens can participate in policy formation and implementation, community developers are finding an increasing number of opportunities for themselves and the practice of their profession.

The community development program has five full-time faculty members with professional expertise in several fields and academic settings. Academic credentials include doctorates in education, anthropology, behavioral sciences, sociology, and political science. Past national and international field experiences of present faculty members include service with the Agency for International Development, the American Friends Service Committee, UNICEF, the World Bank, the Peace Corps, Vista, the National Scholarship Service, and Health Systems Agencies. Faculty are also involved in a variety of on-going community development activities at the local level, which include students as interns and graduate assistants.

Several community service programs are operated out of the community development program. A University Year for Action project provides interns for numerous human service programs in Southern Illinois; Peace Corps training programs help prepare volunteers for work in Africa and the South Pacific. Recent research projects include a folklife inventory documenting the social traditions and heritage of Southern Illinois' diverse populations and a study of rural human services delivery.

Admission Requirements

A baccalaureate degree is necessary for admission. However, application to the program may be made before graduation during a student's senior year.

Admission to the program is not based solely on a student's grade point average. Much weight is given to a student's commitment to action for human betterment, seriousness of purpose, and past experience in working on social and community problems. Current community development students include Peace Corps returnees, ex-Vista volunteers, community workers, and senior agency officials as well as recent college graduates.

Prerequisites

The prerequisites are three upper-division courses in the social sciences with a *B* grade or better, three semester hours of social science statistics at the undergraduate or graduate level, and proficiency in written communication. The social science courses should be in at least two of the following disciplines: political science, sociology, anthropology, social psychology, economics. The prerequisites may be satisfied after admission into the program.

THE SIUC COMMUNITY DEVELOPMENT CURRICULUM

The community development Master of Science degree program at Southern Illinois University at Carbondale offers several career emphases: community planning, community organizing, community relations training, community education, community research, and community program administration.

All students are required to take core courses totalling 30 semester hours plus 14 semester hours in their special emphasis. Students may design their courses of study to focus on particular interests or skills.

Course of Study

The forty-four credit hour program consists of a core curriculum, including a supervised field internship, a minor or area of emphasis, and one of four master's degree options related to the emphasis. Core curriculum courses are on community organization, social change, research methods, and group process. The minor and electives are selected by students from courses related to their career objectives, and may be found within the community development program or other departments in the University. Students with extensive prior community development experience may have their internships waived under certain conditions.

Community Development Core Requirements (30 semester hours)

- CD 401-3 Introduction to Community Development
- CD 500-3 Research Seminar in Community Development
- CD 501-4 Small Group Process in Community Development
- CD 502-3 Community and Change
- CD 503-3 Problems of and Approaches to Community Development
- CD 589-2 Professional Seminar in Community Development
- CD 595-7 Internship

Options to complete master's degree (5 semester hours) are either a thesis, research report, extended minor, or master's project. These five hours may be earned in one of the following ways:

1. CD 599-5 Thesis Research
2. CD 593-5 Individual Research in Community Development (for research report or master's project)
3. Five semester hours in 400- or 500-level courses in addition to the nine hours in the regular minor (for extended minor).

Other Course Requirements (14 semester hours)

- a. Minor (9 semester hours): at least nine hours of 400- and 500-level courses

in one or more disciplines, either in community development program areas of emphasis, or other areas selected by the student and approved by the community development faculty. Lists of recommended courses are maintained by the program.

b. Electives (5 semester hours): additional 400- and 500-level courses in the minor, elective community development courses, or other university departments are selected by the student. Community development electives are:

CD 402-3 Comparative Community Development

CD 403-3 Community Organization

CD 404-3 Role Theory and Analysis in Community Development

CD 405-3 Social Planning

CD 491-1 to 6 Independent Study in Community Development

CD 497-1 to 12 A-E, Seminar in Community Development

Field Internship

The field internship is required for the Master of Science degree and consists of approximately 350 clock hours of supervised field work in a community development project. The professional CD 589 Seminar in Community Development must be taken prior to or concurrently with the field internship.

The objective of the field internship program is to provide a practical field experience in which students are exposed to some of the challenges and rewards of community development work. It is designed to test and develop skills, provide opportunity for personal and professional growth, and increase the ability to understand and analyze practical experience. In most cases, the intern is working with a group of persons sharing a common need or problem. The thrust of the project is to encourage self-help approaches to problem-solving and constructive change. The intern is expected to have a significant responsibility for the project's planning, execution, and outcome. The field internship requirement applies to all M.S. degree candidates. The field internship may be waived in exceptional cases where a student has extensive professional experience in community development work.

Options for Completion of the Requirements for the Master's Degree

Four options are available to complete the requirements for the Master of Science degree in community development: a master's thesis, a research project, an extended minor, or a master's project. The master's option selected by the student and approved by the program must be related to the student's area of emphasis or minor. At the completion of 24 hours of coursework, the student declares and defines a master's option.

Thesis. The thesis must involve substantial new research in community development. Procedures for the thesis option are the selection of a master's committee, the preparation and approval of a research prospectus, execution of the research, and the submission and approval of the thesis. An oral examination by the student's committee covering the thesis topic and the community development discipline completes the requirements for the degree.

The thesis option is initiated by filing a form in duplicate with the program office specifying the composition of the student's thesis committee and thesis topic. Four copies of the thesis are submitted to the program office upon completion: one for the program, one for the thesis committee chairperson, and two for the dean of the Graduate School.

Master's Project. The master's project is a community development project in which the student takes a major part in its conceptualization, design, and implementation. Procedures for the master's project are the selection of a

committee, the submission and approval of a project prospectus, completion of the project, the preparation, submission, and approval of a final report, and the oral examination. Examples of a master's project are the development of consumer cooperative, community health programs, economic development programs, completion of a community development project, and designing and implementing a training seminar or workshop.

Research Report. The research report demonstrates the student's research and professional capabilities. Procedures for the research report option are the selection of a committee, the preparation and approval of a research prospectus, execution of the research, and submission and approval of the research report. An oral examination of the research topic and on the community development discipline complete the requirements for the Master of Science degree.

The research report option is initiated by filing a form in duplicate with the program office, specifying the composition of the student's research committee and research topic. Three copies of the research report are submitted to the program office on completion: one for the program office, one for the committee chairperson, and a third for the dean of the Graduate School.

Several features distinguish the master's project from an internship. For the master's project, the student takes on the major initiative for developing the project, and prepares a formal prospectus describing it prior to inception. The project should have a definite structure with a beginning, middle and end. While the internship stresses learning and growth, the master's project requires the demonstration of independence and professional competence in community development.

The master's project is initiated by filing a form in duplicate with the program office specifying the student's committee and the title of the master's project. Three copies of the final report are submitted to the program office upon completion: one for the program, one for the committee chairperson, and one for the dean of the Graduate School.

Extended Minor (14 or more credit hours). The extended minor consists of five hours of course work outside of community development courses in addition to the nine hours of courses required for the minor. Since the student has five hours which are elective, as many as 19 hours may be accumulated for an extended minor.

In general, the courses selected for the extended minor should have a focus, and the focus and its validity developed under the guidance of the extended minor committee.

Procedures for the extended minor option are the selection of an extended minor committee, the submission of a list of courses for the minor with a justification for their approval, satisfactory completion of course work, and the preparation and approval of a paper. An oral examination of the student covers general knowledge of community development and the extended minor field, and the relationship between the extended minor and community development.

The extended minor option is initiated by filing a form in duplicate with the program office specifying the student's extended minor committee and the minor field. Three copies of a paper must be filed at completion, one for community development, one for the committee chairperson, and one for the dean of the Graduate School. Students may not take courses for an extended minor until their committees have been formed and the option officially filed.

Oral Examination and Master's Degree Option Committee. Two faculty from community development, and a third member of the graduate faculty from

another SIUC program constitute the oral examination and master's degree option committees. The committees are comprised of the same persons, and are selected by the student prior to filing the master's degree option form.

Specialized Areas of Emphasis

The student may select up to 19 hours of coursework for a minor or area of emphasis, as part of the 44 units required for the Master of Science degree. The student's area of emphasis should be relevant to the master's option whether thesis, research report, master's project, or extended minor.

Six areas of emphasis—community research, education, training, planning, organizing, or administration—may be selected from courses and colleges throughout Southern Illinois University at Carbondale and from the community development program. Course lists for each of these emphasis areas, plus consultation, are available from faculty advisers. Students may also design their own areas of emphasis with the consent of their faculty advisers.

Community Organization. Community organizing is one of the fundamental skills of community development. There is a traditional and continuing concern for widespread participation and citizen representation in development programs. The vocation of community development includes employment as organizers for community action groups, cooperatives, tenant unions, neighborhood associations, consumer lobby groups, and minority rights organizations.

Community Education. The role of community development specialists in community education is essentially that of inter-communicator. These specialists require a fundamental understanding of the art and science of teaching, as well as exposure to a variety of education philosophies and practices. The community education specialist coordinates educational activities for groups and individuals with unmet educational needs.

Several minors are available within the broader area of community education such as: rehabilitation education, consumer education, health education, education in the arts and humanities, sex education, special education, and Afro-American or Black studies education.

Social Planning. The purpose of the planning concentration is to provide the techniques and knowledge to students who wish to work as planners or citizen participation specialists for city and regional planning departments, state agencies, and private international development organizations.

The relation of planning to community development is that of providing specialists who can systematically study problem areas and potential resources, propose programmatic solutions, and appraise the likely consequences of planned and unplanned change. Community planning places emphasis on involving citizens in the planning process in order to more fully reflect the diverse needs and values found in many towns and cities.

Community Relations Training. The community relations training concentration is designed to provide skills and knowledge to students who wish to practice various types of human relations training such as T-groups, leadership training groups, sensitivity groups, organizational development groups, consciousness-raising groups, and the like.

The relation of training to community development is to provide specialists skilled in encouraging cooperative, creative human communication in small group settings and to provide trainees for the development of community leadership.

From a vocational standpoint, this type of training may be practiced as a human relations trainer (for which certification is provided by National Training Laboratories), a group welfare worker, a counselor, or an organization training officer. Such training is not intended to include the offering of therapy as practiced by clinical counselors, psychologists, or psychiatrists.

Community Development Administration. The administration emphasis is intended for those interested in public administration and management at any level—federal, state, or city—as as well as for those who wish to be involved in the development and management of community owned business enterprises, community development corporations, cooperatives, etc.

Courses are available which provide skills needed for program planning, development, and evaluation within public and private organizations.

Community Development Research. The research emphasis provides students with basic proficiency in applied methods of research in order to describe community populations, assess community needs and problems, and evaluate programs designed to solve community problems. Typical employment opportunities related to this specialization include grant proposal writing, demographic data collection and analysis for planning agencies, and action and evaluation research duties in program development with public and private organizations.

THE COMMUNITY DEVELOPMENT DISCIPLINE

The emergence of community development, as a practice and a discipline, is a post-World War II phenomenon which has its origins in the relief, rehabilitation, and reconstruction efforts of governmental and private agencies in Europe, Africa, and Asia. In this country, early beginnings of the discipline were reflected in agricultural and cooperative extension work, adult education, rural sociology, and social work with a largely rural focus. In the 1970's the U.S. Foreign Service programs (such as USAID and the Peace Corps) had strong community developmental emphasis. National programs like the War on Poverty (OEO) and the Great Society (Housing and Urban Development) began to focus on urban areas, while local, county, state, and national governments developed community development departments as problem-solving, need-assessment, and evaluation units. The recently independent nations of Africa and Asia have used community development as the primary method of nation-building in the post-colonial period, with both urban and rural emphasis. Today community development is a discipline and a practice that applies the theory and methods of social science to the solution of human problems at the community level.

Community Development Services at SIUC

The Community Development Services at Southern Illinois University was established in 1953 as a component of area services. SIUC was then becoming a comprehensive university with a broad mission of teaching, research, and service, especially to the surrounding area. The earliest efforts of the Community Development Services staff were devoted to mobilizing the energies and resources of the citizens of the rural Southern Illinois areas.

During the first ten years, Community Development Services was involved in every sizeable community in Southern Illinois and included comprehensive study and action programs in communities from East St. Louis to Cairo. Service continued to be its major activity until 1974, but as new region-wide planning and service agencies emerged in the early 1960's, the need for trained

community development professionals became increasingly apparent. Consequently, a Community Development Institute was authorized in 1962 to offer a Master of Science degree program in community development. The program was fully operational by the fall of 1966, with a contingent of 10 new students.

A research unit was added to the institute and service operation in 1965. The program was redesignated as an academic unit within the College of Human Resources in 1973. Community development is now a program unit in the Division of Social and Community Services of the college.

Approximately 200 students have graduated from the master's degree program in community development, the oldest in the U.S. It is professionally staffed by six full-time faculty members and several graduate assistants. The staff maintain close working relationships with a variety of communities and planning, service, and development agencies, in which most students complete their field internships. Areas of emphasis within the program are community development administration, community education, international community organization, social planning, community research, and community relations training and development.

Financial Assistance

A limited number of graduate assistantships is awarded each semester on the basis of performance in the program and need. Fellowships for outstanding graduate students are awarded each year by the SIUC Graduate School. Student work and other financial aid opportunities are coordinated through the Office of Student Work and Financial Assistance.

Part-time Students

It is possible to enter the community development program while in full-time employment. Core courses are offered in the evening on a regular basis. Students seeking advisement on part-time study should contact the department.

Comprehensive Planning and Design

The Division of Comprehensive Planning and Design attempts to provide a generalized rather than a specialized design education. Through the core the student is led to treat human environmental transactions in terms of whole systems rather than isolated aspects or component parts. Emphasis is placed on solutions to human problems which may be encompassed through design procedures. The graduate program of the division provides a broad integrative approach but assumes that, at this level, the student should concentrate study in a more closely defined area within which in-depth work may take place. Thus, the curriculum is set up to provide a broad base, through the core, and specialization within one of the three concentrations: clothing and textiles, design, and interior design.

Admission

Admission to the environmental design program requires, in addition to admission by the Graduate School, three letters of reference from persons in positions to assess the applicant's potential and suitability for graduate study and a letter from the applicants explaining/describing their backgrounds, reasons for selecting this program, major personal and professional goals and how this degree will serve them, and examples of work done (if appropriate). These materials from an applicant are considered by the division graduate faculty as a basis for admission to the environmental design program.

The student will be asked to submit scores from the Graduate Record Examination. Admission to a concentration within the program may require additional coursework and submission of previous work.

Degree Requirements

A Master of Science degree in environmental design will require at least 36 credit hours made up as follows.

9 hours of core courses (ENDES 500, 504, and 508).

9 hours of supporting courses (selected from ENDES 510, 531, 532, 541, 551; BA 450 and/or 551; and GUID 502).

12 hours of concentration/elective (any 400 or 500 level courses).

6 hours of thesis or project.

The core courses, required of all students in the program, provide emphases on subject matter general to all aspects of design. The support courses provide for an increasing degree of specialization, which can be pursued in greater depth via the concentration/elective courses.

Admitted students will be expected to present a tentative program of study, worked out with help and approval of their graduate adviser, by the start of their second semester of study. Although tentative, this program may be changed only with the approval of the graduate adviser.

Students may choose to do either a thesis or a project depending on their interests and goals. As for cases involving theses, the Graduate School requires submission of final reports of projects to show evidence as to what has been done.

All students are required to pass a final oral examination by their committees. This examination will be mainly oriented toward testing students' knowledge acquired as result of thesis or project work but may also be directed more broadly at courses taken and related knowledge.

Computer Science

The Department of Computer Science offers a graduate program leading to the Master of Science degree in computer science. Application forms for admission to the program may be obtained from the department. Application forms for admission to the Graduate School may be obtained from the Graduate School or the department.

Decisions concerning the admission of students to and retention of students in the graduate program will be made by the department faculty subject to the requirements of the Graduate School. The evaluation of applicants for admission will be based on information from the application form, transcripts, grade point average, letters of recommendation, computer science courses and experience, and background in related areas. Applicants must at a minimum have a knowledge of one programming language. In addition, undergraduate courses in assembly language programming, data structures, computer organization, discrete structures, calculus, and linear algebra will have to be taken on a deficiency basis if they have not been completed prior to beginning the graduate program.

Requirements

The requirements for the M.S. degree include a minimum of 30 hours of graduate credit of which at least fifteen must be at the 500 level. However, the actual number of hours which the student must take is dictated by the degree of preparation the student has at admission. The extent of this preparation is generally defined by the number of core courses (or equivalents) which the

student has taken prior to admission and hence need not repeat as a graduate student in the program.

Core Requirements.

1. Each of the CS courses: 401, 411, 414, 430, 435, 445, 451, and 455
2. Mathematics 480 or 483
3. CS 449 or 464a

Area of Emphasis Requirements. The department supports several areas of emphasis, including hardware systems, software systems, information systems, computer applications, and computer science theory. An M.S. student must select an area of emphasis. A program study plan, which will consist of four specific 500 level courses that support the selected area, will be developed with the departmental graduate adviser.

Other Requirements.

1. The student will be required to write a thesis or research paper carrying credit under CS 592 or CS 599. The option chosen requires departmental approval.
2. After the completion of all work, the student will be given a final oral exam over the thesis or research paper and other course work.

Curriculum, Instruction, and Media

The Department of Curriculum, Instruction, and Media offers graduate programs leading to the Master of Science in Education degree in the following areas: early childhood education, educational media, elementary education, and secondary education. The department also provides courses leading to the Specialist degree and the Doctor of Philosophy degree in education.

Requirements for admission to graduate programs are described in the General Information brochure of the Graduate School.

Master's Degree

The master's degree program in each of the four above concentrations requires a minimum of 32 semester hours for completion. Each candidate's program is planned through a faculty adviser and, if a specialty is involved, also in cooperation with the department of the candidate's teaching field.

The student completes a program by satisfactorily finishing all course requirements and passing either the oral examination over the thesis or the master's degree comprehensive examination. The comprehensive examination is scheduled to be administered on Saturday of the seventh week of each semester during the regular academic year and on Thursday of the third week of the summer session.

No more than 11 semester hours of credit earned at another college or university may be accepted toward requirements for this degree. The students' academic programs are planned in consultation with their advisers on the basis of interests, experiences, and areas of specialization. Unclassified graduate students should see the master's degree coordinator for information and advice.

EARLY CHILDHOOD EDUCATION

The master's degree program in early childhood education focuses on preschool through grade 3. Students in the program must complete at least 16 hours of

course work at the 500-level and meet core requirements, research requirements, and supportive field requirements. Core requirements (15 hours) include Guidance 422 and 562A and CIM 419, 513, and 518. Research requirements (3-9 hours) include: (1) CIM 500 and a research paper or, (2) CIM 599 (Thesis). Supportive field requirements of 5 hours must be course work which undergirds early childhood education and must be agreed upon by the student and the assigned adviser.

For the research requirement, a student may elect either (1) to write a research paper dealing with some aspect of early childhood education under the guidance of a faculty adviser and to take the early childhood education master's degree comprehensive examination, or (2) to write a master's thesis under the guidance of a three-person committee which includes the student's adviser and take an oral examination over the thesis given by the thesis committee.

Students desiring preschool certification must be admitted to the Teacher Education Program and follow the preschool entitlement process established for Southern Illinois University, without receiving graduate credit. Those desiring K-9 certification must also be admitted to the Teacher Education Program and complete the appropriate Teacher Education Program requirements, without graduate credit.

EDUCATIONAL MEDIA

The educational media program prepares professionals who will provide comprehensive, effective, and progressive media services to a variety of institutions and agencies in the public and private sector. The term "media" in this program refers to and includes print and nonprint materials together with the associated technology and equipment identified with those disciplines concerned with the improvement of the teaching-learning process. The term "services" in this program refers to and includes the set of clearly identifiable and measurable efforts which bring together learners, staff, and media and which are organized and planned to sustain and improve the quality of learning and instruction in all sectors. Graduates of the program have been employed in elementary and secondary schools, community colleges, colleges and universities, and in business and industry, military service, religious education, and the health services.

The master's degree program in educational media requires a minimum of 32 semester hours for completion. Students may elect to write either a thesis, a research paper, or a research paper/project for the degree. A final oral examination is required of students prior to approval for graduation.

Credits taken as qualifying work for admission to the Graduate School may not be counted toward the degree program in educational media. A minimum of 16 hours counted toward the degree must be taken in the educational media program at SIUC, and at least 16 hours must be earned at SIUC after admission to the educational media program. Work taken during the semester of admission may be included in this total upon approval of the educational media program faculty.

For this course of study, at least 15 hours of credit must be completed in courses at the 500 level or above. CIM 500-3 Research Methods in Education is required of all students in the Department of Curriculum, Instruction, and Media. Several concentrations within the educational media program are available to students. Upon admission, each student will elect a specific concentration and will then be assigned an adviser in that area of concentration. Among the concentrations offered are: school library media specialist, resource teacher, production of educational media, computer based education,

and instructional development. For more information on each concentration, students should write to the master's program coordinator in educational media.

The school library media specialist concentration offers courses which meet the requirements for entitlement to the Standard Special Certificate in all areas of media issued by the Illinois State Board of Education. To meet these certification requirements, the student must take one course in each of the following areas: administration (CIM 442 or 542); organization (CIM 438 or 538); reference (CIM 439 or 539); selection (CIM 440); materials for the elementary level (CIM 435); materials for the secondary level (CIM 445); production (CIM 450, 451, 453, 455, or 548); and communication (CIM 458, 481, 483, 540, 543, 553, 554, 555, or 560). In Illinois, media specialists in the public schools are required to hold a teaching certificate.

Courses in the administration, organization, utilization, and production of educational media are designed to train media specialists who can administer all education materials. Courses often include laboratory work, field trips, and practical experiences.

ELEMENTARY EDUCATION

Students enrolling in the elementary education master's degree program must complete at least 15 hours of course work at the 500 level and meet core requirements, research requirements, and specialization requirements. Core requirements (5-6 hours) include CIM 531 and one of the following: Guidance 422, 502, 506, 562A, or CIM 511. Research requirements (3-9 hours) are (1) CIM 500 and a research paper, or (2) CIM 599 (Thesis).

For this degree a student may follow a general elementary education program or a program with a specialization in one of the following areas: language arts, mathematics, reading, science, social studies, supervision, curriculum, or instruction. A student selecting a specific program and specialization is required to have the program approved by an adviser from that area. A student who selects the area of supervision and successfully completes the M.S. degree will qualify for the General Supervisory Certificate offered through the Illinois Office of Education.

For the research requirement a student may elect (1) to write a research paper under the guidance of a faculty adviser and to take the departmental master's degree comprehensive examination, or (2) to write a master's thesis under the guidance of a three-person committee which includes the student's adviser and to take an oral examination over the thesis given by the thesis committee.

Students desiring certification for K-9 must be admitted to the Teacher Education Program and must complete, without graduate credit, the appropriate Teacher Education Program requirements.

SECONDARY EDUCATION

Students who enroll in the secondary education master's degree program must successfully complete a minimum of 13 to 19 semester hours of graduate level work in education courses in those programs which involve a teaching area emphasis, plus 13 to 19 hours of graduate work in their teaching specialty. Special programs planned for those students whose previous experience or preparation or professional goals warrant special consideration must involve at least 32 hours of graduate work.

Core requirements (9 hours) are: CIM 465, 571, and 580. The research requirement consists of successfully completing CIM 500 or its equivalent

during the first 15 semester hours of the program and either completing CIM 593 for 2 semester hours or writing a thesis. If students elect CIM 593, they and the professors in charge of the research agree upon the research problems and determine the conditions for completing the study. If they elect to meet the research requirement by preparing the theses, they will each be assigned a committee of three professors who will plan with them for the writing of the theses. The committee will also serve as the examination committee before whom the thesis is defended. Thesis credit up to 4 hours may be granted.

The secondary education comprehensive examination is taken by those students who do not write theses. It is a two-part examination which covers (1) the area of secondary education, and (2) the students' teaching specialty or special area of concentration. The student may elect to take the examination after completion of 21 semester hours of course work.

Specialist Degree (Elementary Education or Secondary Education)

The Department of Curriculum, Instruction, and Media offers two Specialist degrees, one in elementary education and one in secondary education. These degree programs are designed for teachers and other personnel who seek to improve performances in specialized areas.

Admission. Applicants for admission to the Specialist program must meet minimum Graduate School standards for admission to and retention in the Specialist degree program. No more than 6 semester hours earned at another college or university may be accepted toward requirements for the Specialist degree. At the time of acceptance into the program, an advisory committee of three professors will be appointed to design the program cooperatively with the student, supervise the field of study, and administer a comprehensive oral examination. At least one member of this committee, the student's adviser will be from the student's area of specialization.

Program of Studies. A minimum of 30 semester hours' credit beyond a master's degree, including field work, is required for completion of the program. At least 15 semester hours must be at the 500 level. Each program requires curriculum and seminar courses from the appropriate discipline (5 or 6 semester hours), a field study (2 to 6 semester hours), and specialization hours and electives as determined by the student and the advisory committee. Prior to graduation a written report of the field study must be submitted to the committee for approval and transmitted to the Graduate School.

Design

(See Comprehensive Planning and Design.)

Early Childhood Education

(See Curriculum, Instruction, and Media for program description.)

Economics

Graduate courses in economics may be taken as a major or minor leading to the Master of Arts, Master of Science, or Doctor of Philosophy degrees in

economics. In addition to Graduate School admission standards, the Department of Economics requires completion of the verbal, quantitative, and advanced economics portions of the Graduate Record Examination except where it may create a hardship for international students.

Master's Degree

Either the M.A. or M.S. degree requires successful completion of 30 semester hours of graduate work. Of this total, at least 15 hours must be at the 500 level and at least 21 hours must be in economics courses. There are required courses in statistics and macro- and micro-economic theory and economic theory or history of economic thought. In addition to these stipulations, the master's degree can be attained in one of three ways. A thesis may be written, for which the student may receive a maximum of 6 hours credit toward the total of 30 hours.

A second option is to include, as part of the 30 hours, Economics 510, Research in Economics. A third option is to take and pass the qualifying exam for the Ph.D. degree. Each of the latter two options also requires the submission of a research paper. Candidates for the M.A. degree must also demonstrate proficiency in one of the foreign languages acceptable for the Ph.D. degree at the level prescribed for that degree. Students who intend to enter the doctoral program must take the remaining courses of preparation for the qualifying exam. These consist of Economics 540a,b,c, and Economics 541a,b.

Students who choose the first or second options must pass a comprehensive examination which may be written or oral or both. For those who choose the third option, the Ph.D. qualifying examination serves as the comprehensive examination.

Doctor of Philosophy Degree

The Ph.D. degree prepares the student for teaching and research positions in the academic world, for positions as economist in private industry, for positions with private research or consulting organizations, or for government positions requiring advanced economic training.

The degree is awarded for high accomplishment as evidenced by these steps:

1. Demonstrating proficiency in econometrics as a research tool through successful completion (minimum grade of *B*) of Econ 467 and Econ 565, or Econ 565 and 567a.
2. Demonstrating proficiency in a second research tool chosen, with prior consent of the director of graduate studies, from one of the following:
 - a. A foreign language: proficiency as demonstrated by successful completion of the Education Testing Service Examination or by passing the appropriate foreign language 488a and b with a grade of *A* or *B* in each course.
 - b. Mathematics: completion of the second year calculus sequence, plus one additional course at the 400 level or one 300 level course selected from Mathematics 301, 305, 352. Each course must be passed with a grade of *B* or better.
 - c. Any two courses at the 400 or 500 level in an area other than mathematics that is closely related to economics and each passed with a grade of *B* or better.
 - d. Computer programming: the student should consult the director of graduate studies for the method of demonstrating proficiency.
 - e. Any two 500 level courses not required for the qualifying examinations nor required for the student's fields, and excluding Economics 501, 502, 507, 510, 525, and 590.

3. Passing a written qualifying examination in economic theory.
4. Passing examinations in two specialized areas of economics, with the prior consent of the director of graduate studies. Course work for an additional untested field must be passed with a grade of *B* or better.

Students are recommended for candidacy for the degree after they pass the field examinations and have an approved dissertation topic.

5. Completion of a dissertation based on original research and successful defense of the dissertation before a faculty committee.

More detailed descriptions of the graduate programs, as well as information on teaching and research assistantships and fellowships may be obtained from the director of graduate studies, Department of Economics.

Education

One may pursue a program of study leading to the Doctor of Philosophy degree in education through any of thirteen approved concentrations: cultural foundations, educational administration, educational psychology, elementary education, guidance and counseling, health education, higher education, educational media, measurement and statistics, occupational education, physical education, secondary education, and special education.

Students must satisfy the requirements of the Graduate School in addition to the College of Education requirements for the Doctor of Philosophy degree in education. General policies pertaining to the Doctor of Philosophy degree in education are enumerated in this section; policies specific to each concentration are stated under each departmental heading. Educational psychology, guidance and counseling, and measurement and statistics are offered through the Department of Guidance and Educational Psychology. Cultural foundations and educational administration are offered through the Department of Educational Leadership. Elementary education, educational media, and secondary education are offered through the Department of Curriculum, Instruction, and Media. Occupational education is offered through the Department of Vocational Education Studies.

For program descriptions of Master of Science in Education degrees and Specialist degrees, the student should consult the appropriate department in this chapter.

Application

Applicants must submit the standard application materials to the Graduate School. Any data required in addition to the standard Graduate School application materials are described under the appropriate departmental headings below.

Admission and Retention

The application materials of those who meet Graduate School requirements for admission to the Ph.D. program are forwarded to the College of Education. The department concerned reviews all documents relative to the student and makes recommendation to the Graduate Affairs Committee of the College of Education; this committee makes the final admission recommendation to the Graduate School. Retention standards beyond minimum Graduate School standards are established by each concentration.

Advise ment

For each student a doctoral committee consisting of a minimum of five

members is constituted and approved according to procedures described in the *Ph.D. Policies and Procedures Manual of the College of Education*. The doctoral committee also serves as the student's dissertation committee.

The program, planned to include all graduate study beyond the master's degree, should be approved at a meeting of the student's committee. The program is then forwarded to the associate dean for graduate studies and research in the College of Education for final approval and filing.

Program Requirements

Each doctoral student in education must successfully complete a prescribed core of eight semester hours in social and philosophical foundations of education (Educ 590) and in psychological foundations of education (Educ 591). For each concentration there are also basic courses, listed below under the departmental headings, which are required beyond this core.

Research Competencies. The Ph.D. degree in education is a research-oriented degree. As such, it consists of a program of studies and other appropriate experiences designed to facilitate the acquisition of knowledges, attitudes, and skills necessary to conduct systematic intellectual inquiry. This overall aim is accomplished via two major program components: (a) general research competencies, including an understanding of the fundamental nature of approaches to problem solution and an appreciation for the role of research in professional education, are developed through completion of a minimum of 40 semester hours of course work in any of 13 approved concentrations, and (b) specific technical and methodological competencies are developed through completion of individually prescribed research tools. Such tools are selected on the basis of their appropriateness for the area of concentration in which the student is working and their relevance to the student's research interests. Research tools are applied in the process of completing requirements for the doctoral dissertation. A list of approved research tools for the Ph.D. degree in education is available in the *Ph.D. Policies and Procedures manual of the College of Education*.

Preliminary Examination. All students in the Ph.D. program in education must take the preliminary examination over areas determined by the concentration. The examination is offered three times a year: Wednesday, Thursday, and Friday of the fifth week of each term.

A student may petition the doctoral committee for permission to take the preliminary examination after successful completion of the research requirement, successful completion of all or most of the course work, and successful completion of the doctoral seminar sequence in education. A student who fails the examination on the initial attempt may take the examination two additional times. If at that time the student has not passed the examination, the student is dropped from the program.

Dissertation. The doctoral committee consists of a chairperson who is authorized to direct doctoral dissertations and at least four others who are authorized to serve on doctoral committees. The committee is appointed by the dean of the Graduate School upon the recommendation of the associate dean for graduate studies and research of the College of Education. At least one member of the committee must be from a department other than that of the student and at least one member from a unit outside the College of Education.

Satisfactory completion of the dissertation requirement includes the passing of an oral examination covering the dissertation and related areas.

DEPARTMENT OF CURRICULUM, INSTRUCTION, AND MEDIA

The Department of Curriculum, Instruction, and Media offers the Doctor of Philosophy degree in education with concentrations in educational media, elementary education, and secondary education.

Admission. In addition to the application sent to the Graduate School, the applicant must also complete the departmental application form and select one of the concentrations within the department. A selection and review committee of that concentration will screen the applicant on the basis of prior graduate work, grade point average, standardized test scores (Miller Analogies Test or Graduate Record Examination required), work experience, and letters of recommendation. The committee recommends admission of the student only if the concentration is willing to sponsor the applicant and a faculty member who is permitted to direct doctoral dissertations agrees to serve as chairperson of the student's doctoral committee.

A student accepted by one concentration who wishes to change to another must resubmit his papers to the new concentration for consideration. A committee may possibly recommend for admission a student who shows some deficiency from department standards if, in its opinion, the student shows unusual professional promise.

Retention. Any prospective doctoral candidate with a grade point average of less than 3.25 after 20 semester hours of doctoral work will not be allowed to continue in the program or be readmitted at a later date. Students must have a grade point average of 3.50 for all doctoral work to qualify to take the preliminary examination. Inquiries regarding admission to any of the three concentrations should be directed to the chairperson of the Department of Curriculum, Instruction, and Media.

Research Requirements. A minimum of one research requirement is selected by the doctoral committee from the following: (1) a reading knowledge of one or more foreign languages, none of which is native to the doctoral student; (2) a demonstration of competency in educational statistics or successful completion of Guid 506 and 507; (3) a demonstration of competency in computer programming; or (4) another research competency at the discretion of the doctoral committee.

Preliminary Examination. The preparation and direction of the preliminary examination are the responsibility of the concentration and the student's doctoral committee. Twelve hours of testing are required. A portion of the examination is prepared by the faculty representing the concentration and a portion is prepared by the doctoral committee. Additional oral and written examinations may be required by the student's doctoral committee or by the concentration evaluation panel.

Oral Examination. The Department of Curriculum, Instruction, and Media requires an oral examination, conducted by the doctoral committee. The examination covers the dissertation and also includes questions designed to ascertain the student's general competency in the concentration and specialty area.

Oral examinations are open to all interested observers. Notice of the time and place of the examination and the abstract of the dissertation are circulated throughout the department and the university. Two copies of the abstract should be given to the associate dean for graduate studies and research in the College of Education.

ELEMENTARY EDUCATION

The doctoral concentration in elementary education offers a program that develops competencies for college and university teaching and research in various specializations. Requirements are balanced and flexible and utilize work in appropriate disciplines outside the College of Education.

Program Requirements. A minimum of 64 hours beyond the master's degree is required. A typical program consists of: (1) the doctoral core requirement in education (8 hours), (2) successful completion of CIM 532 (3 hours) before taking the preliminary examination, (3) completion of a minimum of 13 hours of work in the field of specialization within the concentration of elementary education, (4) at least 8 hours of cognate work which may be outside the College of Education, and (5) at least 24 hours of dissertation. The balance of the program will be in electives that have been selected to support the goals of the program.

EDUCATIONAL MEDIA

The doctoral concentration in educational media is designed for those individuals who wish to become directors of educational media programs in large school systems, community colleges, colleges or universities, or industries in which the scope of the program will require, under the director, separate specialists in the audiovisual and library fields.

Program Requirements. The typical program consists of 64 semester hours above the master's degree arranged as follows: (1) doctoral seminars in education: 8 hours; (2) field of specialization: 32 hours; (3) dissertation: a minimum of 24 hours; work may be required in a cognate field or fields as a part of the 32 hour requirement.

SECONDARY EDUCATION

The doctoral concentration in secondary education offers a varied program to prepare the many specialties for public school teaching. The concentration also offers programs to develop competencies in college and university teaching and research in education.

Program Requirements. The typical program of studies consists of 64 hours above the master's degree arranged as follows: (1) doctoral seminars in education: 8 hours; (2) the departmental core in curriculum theory and instructional practices: 19 hours to include CIM 582, CIM 583, CIM 584, and CIM 586; (3) field of specialization and cognate study: 13 hours as approved by the doctoral committee; and (4) dissertation: 24 hours.

DEPARTMENT OF EDUCATIONAL LEADERSHIP

The Department of Educational Leadership participates in the doctoral program in education with approved concentrations in both educational administration and cultural foundations.

Inquiries regarding application to either program should be directed to the chairperson of the Department of Educational Leadership.

EDUCATIONAL ADMINISTRATION

Admission and Retention. The following are criteria for admission to and retention in the program: (1) A graduate background, at the level of a master's degree major in educational administration, or its equivalent; (2) appropriate experience in an educational setting; (3) objective measures rated on a point

scale developed by the department; i.e., graduate grade point and the Miller Analogies or the GRE scores; (4) subjective measures: recommendations from three or more persons knowledgeable of the candidate's ability to do advanced graduate work; and data gained through personal interview, if possible. An example of the writing ability of the applicant may also be required.

A minimum grade point average of 3.25 on a 4.0 scale is required for retention in the program. A student whose grade point average falls below 3.25 may take an additional nine semester hours of work if such work will correct the deficiency. If after nine hours, the student's GPA remains below 3.25, the student shall be dropped from the program.

Program Requirements. The doctoral program in educational administration normally includes a minimum of 64 semester hours of work beyond the master's degree as follows. The student is required to complete: (a) two doctoral seminars totaling eight semester hours common to all doctoral students in education; (b) a concentration of 16-22 semester hours including a required six-hour, two-course seminar in educational administration (EDL 551 and 553); and, (c) a dissertation of 24-32 semester hours.

Research Tool Requirements. A minimum of one research competency is required of each student. Specific research competencies and procedures for evaluation are determined by the doctoral committee of each student congruent with the individual's professional preparation and goal expectations. Possible research tools might include: a statistics sequence, computer programming, foreign language(s), or other related and research oriented subjects and procedures.

Preliminary Examination. The student prepares for the examination through course work and independent study as advised by the doctoral committee. The examination covers the student's special area of concentration and research. The student's doctoral committee chairperson initially solicits and compiles test questions in these areas, then meets with the department chairperson to determine the completeness of the examination. If certain areas are judged to be inadequately covered, additional questions in those areas are solicited from appropriate staff members. Individuals submitting questions are responsible for evaluating the student's responses to such questions, although the entire examination is available to the total examining committee. After the evaluations, the entire examining committee meets to determine whether the student has passed part or all of the examination. If certain specialty responses are judged to be inadequate, the examining committee may require the student to re-write in the deficient area or to submit to an oral examination in the specialty.

CULTURAL FOUNDATIONS

Admission and Retention. The admissions criteria include grade point averages, Miller Analogies Test or GRE scores, letters of recommendation, and work experience. Students shall ordinarily have completed at least two years of successful teaching experience in the public schools, or its equivalent as determined by the foundations committee. If this requirement has not been fulfilled, the committee may make arrangements for a special internship program.

A GPA of at least 3.25 on the first 20 semester hours of course work is required for retention. This average must be maintained to program completion.

Program Requirements. The student is required to complete a program of at least 70 semester hours beyond the baccalaureate degree, not including 24 hours used in dissertation research. The program must meet the following minimal pattern: (1) 14 hours of professional education courses, including Education 590 and 591; (2) 24 hours in a specialization; philosophy of education, history of education, comparative and international education, or educational sociology; (3) nine hours each in two minor areas selected from: philosophy of education, history of education, comparative and international education, and educational sociology; and (4) 14 hours of elective courses as determined by the sponsoring committee with the cooperation of the student.

Research Requirements. Each student must demonstrate research competence in one or two areas determined by the student and the committee. This might consist of the course sequence in statistics, foreign languages, historiography, etc.

Preliminary Examination. After the student has completed the doctoral seminar sequence, the research competencies, and made up any deficiencies indicated by the student's doctoral committee, the preliminary examination may be taken during the final term of course work or upon successful completion of 36 semester hours beyond the master's degree.

Materials to assist the student studying for the preliminary examinations may be secured from the faculty members asking the questions for the examination. These materials might include a bibliography or some suggestion of those areas the faculty member would hold to be essential to an understanding of that area of the cultural foundations of education.

The examination consists of six hours of written examination administered over two days, and two hours of oral examination. The written examination consists of two three-hour parts. Part one is from the student's principal specialization within cultural foundations of education and part two consists equally of questions from the student's two minor areas. The foundations committee determines who shall write the questions. Faculty members designing questions shall evaluate the responses and state the reasons for their acceptability or unacceptability. The oral examination committee consists of the faculty members writing questions and may also include members of the student's doctoral committee.

The oral examination is administered by the examination committee within two weeks after the written examination; the exact time is determined by the doctoral chairperson with the consent of the oral examination committee. The oral examination has the following purposes: (1) to provide the members of the committee the opportunity to seek further evidence of the student's competence in three areas of foundations and in any other area deemed important by the members of the examination committee; (2) to clarify issues or responses raised by the written examination.

A student receiving an evaluation of unacceptable on any one part of the written examination may confer with the committee chairperson and the evaluator of the question to determine further action, which might include a re-examination of the area judged unacceptable or the design of a special program to correct the student's deficiencies. Failure of the committee chairperson and the evaluators to agree will be resolved by the foundations committee.

Failure to pass two or more parts of the written examination or the oral examination constitutes an overall rating of unacceptable. The foundations committee then decides what action shall be taken in regard to the student.

DEPARTMENT OF GUIDANCE AND EDUCATIONAL PSYCHOLOGY

The Department of Guidance and Educational Psychology offers at the doctoral level approved concentrations in educational psychology, guidance and counseling, and measurement and statistics.

Application. Inquiries regarding admission to any of the three concentrations should be directed to the chairperson of the Department of Guidance and Educational Psychology.

Admission and Retention. The applicant must complete the department form and select one of the three concentrations within the department. A selection and review committee of that concentration will screen the applicant on the basis of prior graduate work, grade point average, standardized test scores (usually the Miller Analogies Test or the Graduate Record Examination), and letters of recommendation. A student accepted by one concentration who wishes to change to another must re-submit these papers to the new concentration for consideration.

A student will not be permitted to take the preliminary examination unless a 3.25 grade point average is maintained in courses taken as a part of the doctoral program. Any student who has a grade point average below a 3.25 after 20 semester hours of doctoral level work, and before passing the preliminary examination, will not be allowed to continue in the program, nor will the student be considered for readmission at some later date. All students will be required to participate without credit in teaching or research experiences as a part of their program.

Program Requirements. In addition each doctoral student in the department must demonstrate competence in each of three core areas by successfully completing specified courses: (a) measurement and statistics (Guid 506, 530 or 531); (b) educational psychology (Guid 511); and (c) personality theory and human dynamics (Guid 570).

Students may request proficiency credit for the competencies from the department chairperson. The awarding of such credit will be determined by : (a) examination; (b) consideration of previous courses taken; (c) interview; (d) some other appropriate method; or (e) any combination of the above. The final decision is at the discretion of the department chairperson.

Research Requirements. Research competencies are attested by course work in the three core areas, as described above, under program requirements. Additional research competencies may be required by the student's doctoral committee.

Preliminary Examination. In addition to the core and doctoral seminar in education requirements, students must demonstrate competency in their chosen concentrations. Expectations and specific requirements of the preliminary examination are developed by the students and their doctoral committees. Students must file a petition with the department chairperson at least two weeks prior to the date the examination is to be taken requesting permission to write the preliminary examination.

EDUCATIONAL PSYCHOLOGY

Students in the concentration of educational psychology will be expected to demonstrate competencies in the following areas:

Competency	Suggested Activity
Statistics/Measurement	Guid 507/531
Research Methodology	Guid 567—when the topic is research design
Learning and Instruction	Selected Courses
Development and Human Dynamics.	Selected Courses
Specialization Area	Self-Study/Selected Courses
	Practicum Experiences/Dissertation (24 hours)

The doctoral committee, in consultation with the student, will determine the means for demonstrating competence and the criteria for successful mastery.

Preliminary Examination. The preliminary examination will be prepared by the doctoral committee of the student. The examination will be composed of questions regarding findings, theory, research methodology, and application in the following areas: learning and instruction, development and human dynamics, comprehensive examination in the student's specialization. The nature of the examination (e.g., timed paper and pencil test, qualifying paper, project, oral examination, experimental or theoretical paper) is to be determined by the student and the committee with the stipulation that some product must be generated, evaluated, and placed in the student's permanent records.

Upon successful completion of the preceding, the student's doctoral committee will make a recommendation regarding admission to candidacy. The recommendation must be filed with the associate dean for graduate studies and research within two weeks following the written examination.

GUIDANCE AND COUNSELING

Student programs of studies in guidance and counseling are individually designed. Consequently, the requirements include:

1. Completion of the core requirements (Guidance 506, 511, 530 or 531, and 570).
2. The required dissertation credits, of which 24 hours will be the maximum. However, to encourage a broad academic base in the specialty, students typically complete the following courses:
 - a. Those courses required in the guidance and counseling master's program or their equivalent if they have not already been completed;
 - b. Eight to twelve hours of electives outside of the department but related to the specialty;
 - c. At least 6 hours in Guidance 568, topical seminar in guidance and counseling;
 - d. Three hours in Guidance 551, the supervision of practicum.
 - e. Six hours in Guidance 594, internship (advanced practicum) in guidance and counseling.

Preliminary Examination. The guidance and counseling concentration faculty will prepare and evaluate a written core comprehensive examination not to exceed twelve hours in length. Upon successfully completing the core examination, the student's doctoral committee shall determine an appropriate evaluation technique to assess the student's guidance and counseling specialty.

MEASUREMENT AND STATISTICS

All programs in measurement and statistics must include: 1. a minimum of 12 hours in Guid. 580; 2. a minimum of 3 hours of electives outside of the department but related to the specialty; 3. a maximum of 24 hours of dissertation credit.

Preliminary Examination. The preliminary examination will consist of three parts: a core examination in measurement (4 hours), a core examination in statistics (4 hours), and a specialty examination. The first two examinations are prepared and evaluated by the full-time statistics and measurement faculty. The specialty examination is prepared and evaluated by the student's doctoral committee. An oral examination over the preliminary examination is conducted within three weeks of the written examination by the doctoral committee.

DEPARTMENT OF HEALTH EDUCATION

The Department of Health Education participates in the doctoral program in education with a concentration in health education.

Inquiries regarding application should be directed to the chairperson of the Department of Health Education.

Admission Requirements.

1. Applicants for the Ph.D. with a specialization in school health or safety education should have met requirements for a teaching certificate. Exceptions to this rule may appeal to the academic affairs committee of the department.
2. Applicants for the Ph.D. with a specialization in community health education are expected to have community health work experience. Exceptions to this rule may be appealed to the academic affairs committee of the department.
3. Applicants for the Ph.D. degree must have a minimal over-all grade point average for all preceding graduate work of 3.25 (based on 4.0 as an A).
4. Acceptance into the doctoral program will be based upon undergraduate grade point average, graduate grade point average, past experience, score on Miller Analogies Test, and letters of recommendation.

Retention. Students must have a grade point average of 3.50 for all doctoral program work to qualify to take the preliminary examination.

Any prospective doctoral candidate with a grade point average of less than 3.25 after 24 semester hours of doctoral work will not be allowed to continue in the program or be readmitted at a later date.

Program Requirements. The Department of Health Education requires satisfactory completion of H.Ed. 533A and 533B, and 597A and 597B. Individual programs are developed for each student. A demonstration of competency in educational statistics or successful completion of Guidance 506 and 507 is required for doctoral students in the Department of Health Education.

DEPARTMENT OF HIGHER EDUCATION

The Department of Higher Education participates in the doctoral program in education with a concentration in higher education.

The doctoral program offers pre-service and in-service preparation for current

and prospective administrators and teachers in two-year colleges and universities and related post-secondary educational institutions.

Application. Inquiries regarding application for admission to the program should be directed to the chairperson of the Department of Higher Education. In addition to the application to the Graduate School, the applicant must also submit the departmental application form, an autobiographical statement, at least three letters of reference (special forms provided), and test results from either the Miller Analogies Test or the Graduate Record Examination.

Admission and Retention. Each applicant is evaluated on an individual basis with much consideration being given to evidence indicating the applicant's commitment to higher education as a field of study and as a career. Each applicant should plan to visit the campus and interview members of the faculty of the Department of Higher Education. Each application is acted upon by the departmental doctoral admissions committee, the faculty of the department, and the graduate affairs committee of the College of Education.

The records of each doctoral student are reviewed annually by the student's doctoral committee to determine whether the student should continue in the program.

Program Requirements. In addition to the College of Education requirements (Education 590-4 and Education 591-4), the following special minimal departmental requirements should be noted. Additional requirements may be established by the student's doctoral committee.

Core Courses—16 semester hours

Hi. Ed. 510-3 Higher Education in the United States

Hi. Ed. 518-3 College Teacher and College Teaching

Hi. Ed. 550-2 Higher Education Seminar III

Hi. Ed. 589-2 Higher Education Research Seminar

Two courses (6 semester hours) chosen from the following five courses:

Hi. Ed. 513-3 Organization and Administration of Higher Education

Hi. Ed. 516-3 College Students and College Cultures

Hi. Ed. 525-3 Philosophy of Higher Education

Hi. Ed. 521-3 Curriculum Design and Policy

Hi. Ed. 528-3 Finance in Higher Education

Program Emphasis. Minimum of 16 semester hours. Each student, in collaboration with and concurrence from the doctoral committee, determines the student's program of courses, which may include work from other departments. An internship may be required if the applicant has not had previous professional experience in higher education.

Dissertation. A minimum of 24 semester hours of dissertation credit is required.

Research Requirements. The Ph.D. degree in education is a research oriented degree. The student must demonstrate competency in one or more research areas selected in collaboration with and approval of the doctoral committee. The research competencies should be related to the type of dissertation that is to be submitted and may include such skills as statistics, computer programming, historiography, and an appropriate modern foreign language. The student's doctoral committee in cooperation with other units of the university must certify the student's competency. The dissertation is the scholarly study of an appropriate topic approved by the doctoral committee.

Preliminary Examinations. The preliminary examination in higher education is a comprehensive written examination prepared each semester by a special examination committee of the graduate faculty members in the department. The student may also be asked to complete successfully an oral examination. Students may petition their doctoral committee to take the examination when they have successfully completed the research competency requirement, the doctoral seminars, and all or most of the course work listed on the approved program.

DEPARTMENT OF PHYSICAL EDUCATION

The Department of Physical Education participates in the Doctor of Philosophy degree in education with a concentration in physical education.

Inquiries regarding application should be directed to the chairperson of the Department of Physical Education.

Admission and Retention. The applicant must possess background of knowledge of and experience with physical education which will provide a basis for advanced work in this field. The student's experience and interests as well as formal education are considered before deciding any deficiencies and the manner of satisfying them. Credit for work done to satisfy deficiencies will not count toward the Ph.D. degree.

A grade point average of 3.50 is required in courses taken as part of the doctoral program. If at any time the grade point average is less than 3.50, the student will confer with the chairperson of the doctoral committee concerning the probability of future success in the program.

A minimum of one year of teaching experience will be required. The adequacy of the experience will be judged by the student's doctoral committee.

Program Requirements. A minimum of 96 hours of credit beyond the bachelor's degree is required as follows:

1. 36 semester hours in physical education courses beyond the bachelor's degree composed of: (a) 20 credits in physical education for the master's degree major, approved by the student's doctoral committee; and (b) 16 credits in approved physical education beyond the master's degree.
2. 36 semester hours in any subject area including course work required of all students by the College of Education (Educ 590-4 and Educ 591-4).
3. 24 semester hours of dissertation.

Research Requirements. At least one research competency, determined by the student's doctoral committee and approved by the associate dean for graduate studies and research, is required. Research competencies embody skills needed to understand research in the student's field, to carry out the dissertation, and to contribute to the specialization.

Preliminary Examination. The student must meet the following conditions satisfactorily before applying to the student's doctoral committee to take the preliminary examination: 1. completion of a minimum of 64 hours of course work beyond the bachelor's degree; 2. completion of the courses required of all Ph.D. students by the College of Education; 3. completion of other courses as prescribed by the student's doctoral committee; 4. completion of the research competency.

These examinations will pertain to: the objectives of course work required of

all students in the College of Education and to the concentration of physical education.

DEPARTMENT OF SPECIAL EDUCATION

The Department of Special Education participates in the doctoral program in education with a concentration in special education. Inquiries regarding application should be directed to the chairperson of the department.

Admission and Retention. The applicant should possess the following qualifications:

1. A bachelor's and master's degree, one of which is in special education, or a bachelor's and master's degree, one of which is in general education plus at least five college courses in special education (excluding speech correction or school psychology).
2. A minimum of three years of school or approved related experience, with exceptional children, with at least two of these in direct pupil contact.
3. At least one previous degree from an institution other than Southern Illinois University at Carbondale.
4. A minimum grade point average of 3.25 for course work completed while acquiring the master's degree.

The following information must be submitted by the applicant to the graduate faculty:

1. Results of the verbal and quantitative tests of the Graduate Record Examination.
2. Five letters of recommendation from professional associates including one from current or most recent employer, and two from previous graduate level instructors.
3. Evidence of writing ability (e.g., master's paper).
4. A short autobiography.

In addition to the above, a personal interview must be arranged with designated faculty members in the Department of Special Education. Any deviation from these requirements must be approved by the graduate faculty of the department. The graduate faculty of the department will evaluate the data and information. It will then make its decision regarding the admission.

Retention in the doctoral program is contingent upon satisfactory performance of a number of tasks as specified in the general requirements for all students in the Ph.D. in education degree program. Additional conditions are imposed by the Department of Special Education and are as follows:

1. In addition to maintaining a 3.25 grade point average for the first 24 hours of doctoral course work, the student must maintain a cumulative grade point average of 3.25 for all work completed before the preliminary examination (approximately the first 36 hours of doctoral course work) and will not be admitted to the preliminary examination unless this average has been maintained.
2. All special education doctoral students are required to work in departmental teaching or research activities for a minimum of five clock hours per week during each term of their full-time enrollment. A total of one to six semester hours of academic credit is granted for these practicum activities. The purpose of this requirement is to provide an opportunity for the doctoral student to participate in progressively more responsible professional activities under the supervision of the departmental faculty.
3. It is the responsibility of the student's doctoral committee to determine whether or not the student is making satisfactory progress. If the student

is not making satisfactory progress, it is the responsibility of the student's doctoral committee to determine whether the student should be dropped from the program or allowed to continue on a conditional basis.

Program Requirements. All students must complete the College of Education doctoral seminar (Educ 590-4 and Educ 591-4) plus 12 semester hours of course work: Sp Ed 582-2, post-master's seminar; remedial models in special education; Sp Ed 583-2, post-master's seminar; program coordination in special education, Sp Ed 584-2, doctoral seminar; research in special education, Sp Ed 585-2, doctoral seminar; evaluation in special education programs, and Sp Ed 586, proseminar; 1 hour each semester for 4 semesters (a total of 4 semester hours).

Students also must complete a minimum of 20 semester hours, approved by their committees, from specific courses in the Departments of Educational Leadership; Guidance and Educational Psychology; Curriculum, Instruction, and Media; Rehabilitation; Sociology; and Special Education.

An internship experience reflecting the student's career goals is required. The actual type of experience will be specified by the students and their doctoral committees early in the students' programs. Internship hours are not accumulated in the minimal total for graduation.

Research Requirements. No single research competency is required for every student. The doctoral committee aids the student in selecting a research requirement(s) that facilitates the specific research skills the student needs.

Preliminary Examination. The content of the special education preliminary examination includes: (1) historical facts in the development of educational programs for the handicapped, (2) administrative and theoretical issues related to the education of the handicapped, (3) the design and conduct of experiments related to the education of the handicapped, and (4) the planning of educational programs for the handicapped. Examination questions are submitted by the members of the doctoral committee and the departmental graduate faculty. It is the responsibility of the doctoral committee to determine the adequacy of the student's responses to the preliminary examination.

DEPARTMENT OF VOCATIONAL EDUCATION STUDIES

The Department of Vocational Education Studies participates in the doctoral program in education with a concentration in occupational education.

Inquiries regarding application should be directed to the coordinator of graduate studies, Department of Vocational Education Studies.

Admission and Retention. Admission to the concentration is determined by a screening committee composed of a minimum of three members of the graduate faculty of the department, and is based on the following criteria: (1) the nature and quality of previous graduate study; (2) the quality of previous written work; (3) the quality and variety of previous employment; (4) letters of recommendation relative to professional and academic competence; (5) the employment potential of the applicant upon completion of the program; and (6) a personal interview, if possible.

Program Requirements

8 hours of Doctoral seminar sequence in education (Educ 590-4 and Educ 591-4)
15 hours of Occupational Education

VES 564-3 Evaluation of Vocational, Occupational, and Career Education Program

VES 576-3 Policy Implementation of Vocational, Occupational, and Career Education Program

VES 580-3 Characteristics of Vocational, Occupational, and Career Education Program

VES 584-3 Articulated Vocational, Occupational, and Career Education Program

VES 594-3 Research Seminar in Vocational, Occupational, and Career Education Program

9 hours in supportive studies (student completes one)

Management specialization

Professional development specialization

Research specialization

8 hours of internship (related to the specialization)

24 hours of dissertation

For a total of 64 hours

Research Requirements. The student must demonstrate competency in educational statistics, or demonstrate competency in computer programming, or complete two doctoral courses in statistics, i.e., Guid 506-4 and 507-4.

Preliminary Examination. The examination will ordinarily consist of two sessions: (1) a written examination of approximately four hours focusing on the departmental core work, prepared and evaluated by the faculty of occupational education in the Department of Vocational Education Studies; and (2) a written examination of approximately four hours duration, which focuses on the student's supportive studies, including the specialty work, prepared and evaluated by the student's doctoral committee. An oral component in the preliminary examination is optional with the doctoral committee.

Those students who fail all or any part of the examination on the initial attempt may repeat that part(s) two additional times. If, at that time, the students have not passed they will be dismissed from the program.

Educational Administration

(See Educational Leadership for program description.)

Educational Leadership

The Department of Educational Leadership offers an approved program in educational administration leading to the Master of Science in Education degree. It also administers the program in educational administration leading to the Specialist degree and provides programs and personnel for doctoral students who wish to specialize in educational administration and cultural foundations. Programs at all levels are NCATE approved. Interested applicants should direct inquiries to the chairperson of the department.

Faculty from the Department of Educational Leadership in cooperation with faculty from other departments offer courses in adult and community education. Inquiries about these courses should be directed to the chairperson of the Department of Educational Leadership.

Master of Science in Education Degree

At the master's level, concentrations are offered in educational administration, instructional supervision, and adult education.

EDUCATIONAL ADMINISTRATION

Within the administration concentration, specializations may be selected for certificated positions such as elementary principal, secondary principal, curriculum coordinator, school business manager, vocational-technical director, and for a variety of positions in other educational institutions and settings. A minimum of 32 semester hours is required.

Admission criteria include undergraduate grade point average, work experience, letters of reference from persons knowledgeable of the candidate's ability to do graduate level work, and data gained through a personal interview with the candidate.

The program for the Master of Science in Education degree with a concentration in educational administration includes a basic core: administration, EDL 501 and 503; research and tool subjects, EDL 500, and EDL 593; a foundations course (e.g., EDL 430, 432, or 454); and a course in curriculum (e.g., EDL 511, CIM 531, or CIM 571). Elective courses are determined by the student and the adviser, dependent on the student's specialization. A research report and comprehensive oral examination are also required. It is recommended that applicants seeking administrative certification in the public schools have at least two years of successful teaching experience prior to or concurrent with the program.

INSTRUCTIONAL SUPERVISION

Regulations for the master's degree with a concentration in instructional supervision parallel those for the concentration in educational administration. Students in this area normally select specialized courses in supervision and curriculum appropriate to their goals as supervisors, (e.g., elementary, secondary, or both). The department encourages a cross-departmental approach in the selection of appropriate courses for individual programs.

ADULT EDUCATION

A basic core representing a minimum of nine semester hours of all course work is required. These courses are: EDL 485, Workshop in Adult and Community Education, EDL 465, Organization and Administration of Adult and Community Education Programs, and EDL 500, Educational Research Methods (or its equivalent). The remaining course work to satisfy the thirty (30) semester hour degree program may be selected from one of the following areas of specialization: administration, classroom instruction, and continuing education in post-secondary institutions. The specific program of courses is arranged in consultation with the graduate adviser.

Specialist Degree

The Specialist degree program is structured on a 30 semester hour sequence which requires: six semester hours in advanced administration seminars, EDL 551 and 553; four semester hours in an administrative internship, EDL 595; and three semester hours in independent investigation, EDL 596; and additional elective courses, totaling a minimum of 17 semester hours. These elective courses are determined by the student and advisory committee, dependent on the student's specialization. A comprehensive oral examination is also required.

Candidates seeking the Illinois superintendency endorsement (level III) are required to have a minimum of nine semester hours in foundations in their total graduate program and six semester hours in cognate areas such as anthropology, economics, political science, sociology, psychology, etc.

Admissions criteria include a minimum graduate grade point average of 3.25 on a master's degree or its equivalent, Miller Analogies or GRE test scores,

appropriate work experience, letters of reference from persons knowledgeable of the candidate's ability to do advanced graduate level work, and data gained through personal interview with the candidate.

This program is based on the supposition that the applicant has a master's degree or its equivalent in educational administration. Students entering the program without this previous administration training will be required to complete prerequisite work as determined by the student's committee.

Educational Media

(See Curriculum, Instruction, and Media for program description.)

Elementary Education

(See Curriculum, Instruction, and Media for program description.)

Engineering

Graduate programs leading to the Master of Science degree in engineering are available for three concentrations in three engineering departments: electrical sciences and systems engineering, engineering mechanics and materials, and thermal and environmental engineering. Course offerings and research activities within the departments include:

ELECTRICAL SCIENCES AND SYSTEMS ENGINEERING

Topics. Included are: circuits, electronics, solid state devices and materials, digital systems, energy sources and conversion, computers and automata, bioengineering, systems analysis and design, controls, communications, instrumentation, and electromagnetics and quantum electronics.

ENGINEERING MECHANICS AND MATERIALS

Topics. Included are: viscous and inviscid flow, compressible flow, wave motion, turbulence, numerical fluid dynamics and solid mechanics, continuum mechanics, materials science, experimental stress analysis, stability, photoelasticity, structural analysis, structural design and bioengineering.

THERMAL AND ENVIRONMENTAL ENGINEERING

Topics. Included are: air pollution control, water quality control, thermal pollution, mass and heat transfer, thermal science, thermal systems design, chemical processes, and bioengineering.

A student who is interested in graduate studies in engineering, should seek admission to the Graduate School and acceptance in a degree-program by one of the three engineering departments. The applicant must have a bachelor's degree with a major in engineering, mathematics, physical science, or life science with competence in mathematics. A student whose undergraduate training is deficient may be required by the department to take coursework without graduate credit.

A program of study will be developed by a graduate adviser and the student. Each student is required to concentrate in one of the branches of engineering,

but with the approval of the graduate committee, may also take courses in other branches of engineering or in areas of science and business, such as physics, geology, chemistry, mathematics, life science, or administrative sciences.

For a student who wishes to complete the requirements for the master's degree with a thesis, a minimum of 30 semester hours of acceptable graduate credit is required. Of this total 18 semester hours must be earned within the major department. Each candidate is also required to pass a comprehensive examination covering all of the student's graduate work, including thesis.

If a student prefers not to do a thesis, a minimum of 36 semester hours of acceptable graduate credit is required. In this non-thesis option, students are expected to take at least 21 semester hours of acceptable graduate courses within the major department, including 3 semester hours of the appropriate 592 course which could be devoted to the preparation of a research paper. In addition, each candidate is required to successfully complete (a) a research paper, and (b) a written comprehensive examination.

Each student in this non-thesis option will select three engineering graduate faculty members to serve as an examining committee, subject to approval of the chairman of the department administering the concentration. This committee will consist of two members from the department in which the student is concentrating plus one member from one of the other two engineering departments and will:

1. approve the student's program of study
2. approve the student's research paper topic
3. approve the completed research paper
4. administer and approve the written comprehensive examination.

Teaching or research assistantships and fellowships are available for qualified applicants. Additional information about programs, courses, assistantships, and fellowships may be obtained from the School of Engineering and Technology or any one of the three engineering departments.

Engineering Biophysics

The goal of the engineering biophysics program is to produce professional people who can bring engineering and biophysical skills into teaching and research endeavors involving man in particular. Applied human problems involve work in hospitals, university laboratories, and specialized industries. The program also prepares students for admission to schools of medicine, dentistry, veterinary medicine, and engineering.

Interdisciplinary graduate work leading to a Master of Science degree in engineering biophysics builds upon an interdisciplinary undergraduate program at SIUC, which has its core in the areas of chemistry, engineering, mathematics, physics, physiology, psychology, and speech pathology and audiology. The graduate program provides the student with the unique opportunity to work with the faculty and facilities in increasingly integrated areas throughout the University and to specialize in solving problems of biomedical physics that involve several academic and professional disciplines.

The engineering biophysics committee, appointed by the dean of the Graduate School, is the agency that evaluates the program and recommends policy for its development. The committee appoints an administrator who is responsible to it and to the student for the daily as well as long-run activities of the program. The committee has a chairperson and it sees that the program is administered in accordance with the policies established by that committee and with the policies of the graduate council and the dean of the Graduate School.

Admission to the Program

1. A student must apply and be admitted to the Graduate School, even if continuing from the four-year program at SIUC.
2. A bachelor's degree from any of the behavioral, life or physical sciences, engineering, or mathematics serves as a minimum requirement for admission. A very favorable route is by following the prescribed interdisciplinary curriculum of the four-year undergraduate program in engineering biophysics at SIU at Carbondale, or its equivalent elsewhere.

Tool

No demonstration of language competency is required for the master's degree. Students are urged, however, to acquire a reading knowledge of French, German, Spanish, or Russian in their undergraduate experience.

Core Requirements and Internship

The year of work at the graduate level emphasizes courses in physiology, psychology, and speech pathology and audiology. These core-area requirements amount to 19 semester hours and include courses in medical instrumentation, neurophysiology and pathology, sensory processes, systems and simulation, human engineering, statistics, and seminar. The courses provide a basis for internships in hospitals and in laboratories in industry and government. The internship is a requirement of the graduate program for which six semester hours of credit are allowed. The internship might well be accomplished in the summer session of the graduate year. Three elective courses at the graduate level make up additional requirements for completing the degree.

English

The Department of English offers programs leading to the Master of Arts and the Doctor of Philosophy degrees in English. Students enrolled in a program leading to the Master of Science in Education degree in secondary education or higher education may take courses in English to satisfy requirements for the teaching specialty. Students enrolled in the Ph.D. degree in education program may take courses in English for the elective portion of the program, when permitted by the specific department participating in the degree.

Admission

Students seeking admission to a graduate program in English must meet requirements for admission to the Graduate School and must be approved for admission by the Department of English.

In addition, students seeking admission to the Doctor of Philosophy program must present a score of the 70th percentile or above in the advanced section of the Graduate Record Examination.

Information about admission to graduate programs in English may be obtained by calling (618-453-5321) or writing the director of graduate studies, Department of English, Southern Illinois University, Carbondale, Illinois 62901.

Transfer Credit

Within limits imposed by the Graduate School, transfer credits will be accepted by the Department of English subject to the following restrictions.

The student must petition the director of graduate studies indicating the number and level of hours being submitted for credit, where and when the course was taken and the grade. As nearly as possible, the course to be

transferred should be equated with a course offered by the SIUC Department of English. The student will then be assigned to the appropriate faculty member, who will examine the student over the material of the course and recommend whether the transfer credits should be accepted and whether the course satisfies distribution requirements of the department. The director of graduate studies will act on the recommendation and forward it to the proper authorities.

Retention

In the entire graduate program, the student may accumulate up to 3 hours of work below *B*, so long as a 3.0 M.A. or 3.25 Ph.D. average is maintained. If the student has accumulated more than 3 hours, but fewer than 10 hours, of grades below *B*, these must be replaced by an equal number of hours of *A* or *B* in addition to maintaining the required average. In effect, that is, the minimum number of semester hours of course work may be increased from 30 to a maximum of 36. A student who accumulates more than 9 hours of *C* will be dropped from the program.

A student who is granted a deferred or incomplete grade must complete the work by the end of the next term in residence. Exception to this rule will be made only in a very special case and must be made through petition to the graduate studies committee. A student who has accumulated more than 6 hours of such work will not be allowed to register for more course work until the total of deferred work is reduced to not more than 3 semester hours. Deferred or incomplete work will be regarded as finished when a student has submitted all examinations, papers, etc., to the instructor. Deferred or incomplete grades in English 595 or 600 are not included in the above regulation.

Coursework

Students may offer work from outside the department (in a single field or in two or more related fields) toward either the Master of Arts or the Ph.D. degree, provided that the work does not interfere with regular requirements of the Department of English and has relevance to their program.

Master of Arts Degree

The Master of Arts degree program in English requires satisfactory completion of 30 semester hours of which 15 must be earned in 500-level courses.

The program, broad rather than concentrated, requires students to:

1. Take English 585 (required only of graduate assistants)
2. Take a course in the English language or English linguistics for 3 hours credit
3. Take courses in six English or American literary periods for 18 hours credit—three from Group I and three from Group II:

Group I

- (a) Anglo-Saxon and Medieval English Literature
- (b) Renaissance & 17th Century English Literature
- (c) Restoration & 18th Century English Literature
- (d) 19th Century English Literature

Group II

- (a) American Literature before 1885
 - (b) American Literature since 1885
 - (c) Modern British Literature
 - (d) Modern Continental Literature
4. Satisfy the foreign language requirement by (a) completing, with an average of not less than *B*, two years of college-level work in one foreign language or the equivalent or, (b) passing FL 488B with a grade of *B* or better or, (c) passing the ETS examination.

5. Submit a research paper (typed according to Graduate School guidelines and the MLA Style Sheet), which has been given a grade of not less than *B* to the director of graduate studies
6. Pass the master's comprehensive examination

Electives. The student may use the remaining 9 hours of the 30 hours of graduate work required for the M.A. degree as follows:

A. Nine hours of graduate-level credit courses in the Department of English, or

B. A nine-hour area of concentration in a special field (1) in the department (such as rhetoric, expository composition, creative writing, etc.) or (2) outside the department (in such areas as linguistics, a foreign language, philosophy, history, etc.) with the approval of the director of graduate studies, and this will be recorded as a special minor on his record. A *B* in all courses is necessary to qualify course work presented as an area of concentration. (N.B. graduate assistants who are required to take English 585 may need more than the minimal 30 hours of credit for the master's degree if they wish to offer an area of concentration).

Doctor of Philosophy Degree

Students must apply formally for admission to the Doctor of Philosophy degree program, including students who have earned a master's degree at Southern Illinois University. Admission to the Ph.D. program is decided by the graduate studies committee, which makes its decision according to the following criteria:

1. An M.A. in English or its equivalent
2. Appropriate grade-point average (normally, a 3.25 is the acceptable minimum)
3. A satisfactory score on the GRE advanced literature examination (normally the 70th percentile will constitute an acceptable minimum score)

A full-time student holding a master's degree can complete the doctoral program in two years, though most prefer three. Students are considered Ph.D. candidates when they have (1) completed the prescribed course of study, (2) satisfied the research-tool requirements, (3) passed the preliminary examination, and (4) been recommended by the English graduate faculty. The Graduate School recognizes students as Ph.D. candidates after it receives notification that the students have passed the preliminary examinations. Students must be admitted to candidacy at least six months prior to the final examination on the dissertation.

Course of Study

There is no prescribed number of hours for the Ph.D. in English. Required courses are as follows:

1. If students have never had courses, graduate or undergraduate, in Chaucer, Shakespeare, and Milton, they are required to remedy this deficiency
2. Students are required to have taken at least one graduate course in each of the six major fields (see M.A. course requirements) and English 400 and 403 or the equivalents
3. In addition, courses may be prescribed by the students' advisory committee to insure that they will have a comprehensive knowledge of a major and two related minor areas
4. Ph.D. students are normally required to complete for credit, with no grade lower than *B*, at least one 500-level course in each minor area of study.

Research Tool Requirements

A student may satisfy the research tool requirement by fulfilling one of the

three options listed below. The choice of option and languages selected must be approved by the student's advisory committee.

1. A reading knowledge, demonstrated by examination, of two languages in addition to English. Each must be a language in which there is a substantial literature for research and which is germane to the student's field. Foreign students may specify their native language as one of the foreign languages, provided it is one which meets the above requirements. Foreign students choosing this option will be required to demonstrate fluency in oral and written English.
2. A command of one foreign language and its literature demonstrated by examination or by at least three courses numbered 400 or above, or the equivalent, with an average grade not lower than 3.0. Satisfaction of this requirement normally would require the equivalent of three years of study at the college level with grades of *B* or better. Foreign students may use their native language, provided it is one which is germane to the particular field of major concentration. Foreign students choosing this option will be required to demonstrate fluency in oral and written English.
3. A reading knowledge of a single foreign language, demonstrated by examination, and a special research technique or collateral field of knowledge. A special research technique should represent the acquisition of any special skill that will effectively contribute to the research proficiency of the student (provided that such a skill is not an assumed or traditional part of the major). The collateral field of knowledge is expected to broaden the student's scholarly background by permitting exploration of knowledge in a field related to the major.

To satisfy the research technique or collateral field requirement, the student may complete a total of two semester courses numbered 400 or above, with an average grade not lower than 3.0.

The department has expanded its Ph.D. program into interdisciplinary studies on a cooperative basis with departments that deal with pertinent subject matter and who are interested in such interdisciplinary cooperation, e.g., the Departments of Philosophy, Foreign Languages and Literatures, History, Cinema and Photography, Speech, Theater, and Sociology, etc. Permission for an interdisciplinary minor must be approved by the student's committee and the graduate studies committee.

Preliminary Examinations. Students on a fellowship or a graduate assistantship will be expected to take preliminary examinations no later than two and three years, respectively, after receipt of their M.A.

Preliminary examinations are prepared and graded by the student's advisory committee, and will cover three areas. A major-area examination consists of one six-hour written exam, and the minor-areas of two three-hour written exams. Preliminary examinations will be given only twice in a single term.

At the discretion of the committee, a two-hour oral examination will follow the decision on the three written examinations.

English as a Foreign Language

(See Linguistics for program description.)

Environmental Design

(See Comprehensive Planning and Design for program description)

Foreign Languages and Literatures

The Department of Foreign Languages and Literatures offers graduate programs leading to the Master of Arts degree in French, German, or Spanish. A student whose degree program makes provision for a graduate minor may follow a program of study leading to a minor in these same subjects as well as in Russian.

Students may complete requirements for a teaching specialty in French, German, Russian, or Spanish for the Master of Science in Education degree in secondary education or in higher education.

Students seeking the Master of Arts degree will be governed by the policies of the Graduate School with respect to admission, minimum credit hours, scholastic attainment, residence, and maximum time limits for completion of the program.

Admission

In addition to meeting requirements of the Graduate School, the applicant for admission to the programs in the Department of Foreign Languages and Literatures should hold a bachelor's degree with a major or at least 18 semester hours (27 quarter hours) of courses on the junior-senior level in French, German, or Spanish. Students who meet requirements for admission to the Graduate School but do not meet departmental requirements may register as unclassified students for specific graduate courses in the department only with consent of the instructor and authorization from the head of their language section.

Requirements for Master of Arts

Students who have been admitted to graduate study will plan their course of study in periodic consultations with their graduate advisers. During such consultations, each student will decide upon either a thesis or a non-thesis (i.e., research paper) program. This program should be made before the end of the second semester of study. Students choosing to write a thesis will register for the thesis course (599), which provides from two to six semester hours of credit. Regardless of whether the thesis or non-thesis program is chosen, every candidate must pass a comprehensive written examination and a final oral examination at a time specified by the language section. For the student writing a thesis, this final oral examination is primarily a defense of the thesis.

A minimum of thirty semester hours are required, of which at least fifteen must be in 500-level courses. All students must take the appropriate course (FL 566, 567, or 569) in bibliography and research techniques, which should be taken as early as possible during the course of studies. With approval of the adviser, graduate courses outside the language in which the degree is being taken may be counted towards the total unit requirement. Beyond such requirements as are specified for each language, students must demonstrate proficiency in a second foreign language by passing an exam in that language or by successfully completing approved course work in that language.

FRENCH

The program of study leading to the Master of Arts degree in French is planned to give a balanced overview in the areas of French language, literature, and civilization, and to allow a high degree of flexibility in the elaboration of the student's total program in French. Required courses are:

FL 566 Bibliography and Research Techniques in French
 French 411-3 Contrastive Analysis- French and English
 or
 French 412-3 History of the French Language
 French 470-1 Backgrounds of French Civilization
 French 510-3 Masterpieces of French Literature
 French 525-3 Advanced Language Skills

The student will consult with the graduate adviser in determining a suitable program beyond those requirements.

GERMAN

A student seeking a Master of Arts degree in German may concentrate in either German language and linguistics or in German literature; a minor must be completed in the other of these two fields. Although German 412-3, Linguistic Structure of Modern German is not required, it is strongly recommended for prospective teachers of German. Required courses are:

FL 567 Bibliography and Research Techniques in German

German 413-3 History of the German Language

One course in an older period of a Germanic language. (German 510-3, Middle High German, is recommended, but an alternative course could be German 512-2, Historical Germanic Dialects.)

SPANISH

The program of study leading to the Master of Arts degree in Spanish is designed to survey at least two of the following: Spanish language, Hispanic linguistics, Peninsular literature, and Spanish American literature. Requirements are:

Courses: Spanish 412-3, FL 569-3

Theses or research paper: (Option 1 or 2 is required).

Option 1: If writing a thesis, either (a) 6 hours of Spanish 599 or (b) 3 hours of Spanish 599 plus 3 hours of an elective Spanish graduate course.

Option 2: If writing a research paper, either (a) 4 hours of elective Spanish graduate course work, plus 2 hours of FL 509 or (b) 6 hours of elective Spanish graduate course work.

Requirements for Master of Science in Education

The Master of Science in Education degree in secondary education with a teaching specialty in French, German, Russian, or Spanish requires a minimum of 30 hours, at least 13-17 semester hours in the subject-matter area and 13-17 semester hours in secondary education. The Master of Science in Education degree in higher education with a teaching specialty in a foreign language requires at least 20 semester hours in the subject-matter and 12 semester hours in higher education.

Further details as to specific requirements will be found in the respective program descriptions. For either degree, if the teaching specialty is Russian, Russian 515 is required.

Forestry

The Department of Forestry offers advanced courses for the Master of Science degree in forestry. In addition, curricula are available which permit graduate students with an interest in forestry to pursue this interest in Doctor of Philosophy degree programs in other departments.

Admission

In addition to requirements set forth by the Graduate School, the Department of Forestry requires the following:

1. A minimum grade point average of 2.7 is required for admission ($A = 4.0$). The department will permit conditional entry between the 2.5 and 2.7 grade point average level. A grade point average of 2.7 or higher is required for stipend eligibility when available.
2. The student is required to provide proof of proficiency in technical writing. Normally an expository essay is required to evaluate whether the student should have remedial grammar or writing courses.
3. Three letters of recommendation from former professors, employers or other responsible individuals are required.
4. The aptitude test of the Graduate Record Examination is required of all applicants. This test may be taken during the first semester of residence.
5. Each applicant should fill out the statement of interest form. This form indicates the student's area of interest in forestry and the faculty member under whom the student desires to study. All correspondence should be directed to the chairperson of the Department of Forestry.

Retention and Completion Requirements

Upon the graduate student's arrival on campus, an advisory committee of 3-5 members of the graduate faculty will be formed to guide the student's work. The same committee will be responsible for preparation and administration of thesis exams and also for the reading of the thesis. The advisory committee chairperson and one other member of the committee shall be members of the forestry department. The other member(s) may be selected from any academic unit including forestry.

Summary of Events.

1. The deadlines for receipt of applications and official transcripts in the office of the Graduate School are (a) the second Saturday in July for admission to the fall semester (b) the last Saturday in November for admission to the spring semester (c) the last Saturday in March for admission to the summer term.
2. Letters of recommendation should reach the forestry department chairperson by the same dates as above.
3. Acceptance by department and Graduate School should be announced one month or earlier than the desired matriculation date. A thorough review will be made by a screening committee of four forestry department graduate faculty and the departmental adviser. Students rejected for admission will also be notified.
4. Registration for first semester's work after student's acceptance by the department.
5. Appointment of advisory committee chairman, written plan for course work, and selection of tentative thesis areas all within first two months of residence.
6. Preparation of formal written thesis outline and preparation of research proposal by the eighth week of the second semester.
7. Completion of final, typed or reproduced review copies of thesis and submission of advisory committee at least three weeks in advance of oral defense of thesis. Handwritten or incomplete work will not be acceptable.
8. Oral exam to be followed by completion of required approval forms. If thesis requires modifications, this should be accomplished immediately to

reach the graduate dean's office in due time set by the Graduate School. One bound copy of the thesis will be provided for the department, one for the chairperson of the advisory committee in addition to two copies required for the Graduate School and a copy for the author. Additional copies may be required for projects sponsored by outside agencies.

Master of Science Programs

The Department of Forestry offers three areas of concentration with specialities within each. Combination of specializations is possible.

FOREST RESOURCE MANAGEMENT

Under this heading, a given graduate program may concentrate on forest management, forest ecology, forest resources measurements, forest resources economics, forest genetics, or forest policy and administration.

OUTDOOR RECREATION RESOURCE MANAGEMENT

Specialization may be made in social, managerial, or natural science aspects of wildlands recreation and park planning and management in the given graduate program depending on the student's interest.

WOOD SCIENCE AND TECHNOLOGY

Physical, mechanical, or biological properties of wood or woodbase materials may be studied. Also, the production and marketing of forest products may be selected.

A specialty in environmental studies in forestry is available.

Assistantships and Fellowships. Ten to twelve research assistantships are sponsored each year by the McIntire-Stennis Cooperative Forest Research Act. Nine teaching assistantships funded by the School of Agriculture are also available.

In addition to general awards made through the Graduate School, stipends for research studies are available from the Federal Forest Service, the U.S. Department of Interior, other federal and state agencies, and private corporations.

Requirements

Since the normal minimum requirement for graduation is 32 semester hours, the completion of degree work for students holding assistantships should be accomplished within four semesters (including summer) which is also the normal maximum span for financial aid.

To gain teaching experience, graduate students are expected to assist in the classroom or laboratory for at least one academic semester (20 hours per week) during their tenure with the forestry department. The remaining semesters will also involve either research or teaching at the rate of 20 hours a week. All graduate students are required to enroll in Seminar (Forestry 501) for two semesters for which they will receive one semester hour of credit.

Staff

In addition to the faculty listed in the Graduate School Catalog, several adjunct professors also hold appointments with the forestry department. These professors are assigned to the Forest Science Laboratory of the North Central Forest Experiment Station and the Crab Orchard National Wildlife Refuge. They advise and serve on graduate guidance committees.

Research Facilities

Land. Southern Illinois University is well endowed with a number of different

forest types which are available to the forestry department for teaching and research purposes. In particular, we are conducting or planning research and demonstration programs on forest plots and experimental fields of the 3000 acres of Southern Illinois University at Carbondale and its experimental farms. We also have access to wooded lands of the 600 acres of the Touch of Nature, Environmental Center, 400 acres at the Pine Hills Field Research Station, and other forests.

Through various memoranda of understanding and special use permits we have use of forested lands and plots on the 43,000 acres of the Crab Orchard Wildlife Refuge, the 250,000 acres of the Shawnee National Forest, and the 4000 acres of the Trail of Tears State Forest, all of which are within an hour's drive of Carbondale. In addition, we can conduct basic research on the 640 acres tract of the Beall forest near Mt. Carmel, Illinois. The forests on this land represent one of the last central hardwoods remnants of virgin bottomlands and slopes and are under the jurisdiction of the Illinois Nature Preserves Commission.

Physical Facilities. A research greenhouse operated in cooperation with the U.S. Forest Service at the Tree Improvement Center on the western side of the campus is in operation for research and graduate teaching. Greenhouses and growth chamber facilities in the agriculture greenhouses in conjunction with the Department of Plant and Soil Science are also available.

A variety of laboratories for all phases of forestry research as well as access, through cooperative agreements, to laboratory facilities with other agencies on the campus are in service. The Forest Science Laboratory of the U.S. Forest Service, located adjacent to the forestry department offices, is available to our graduate students for research and other functions. In addition, a wood testing laboratory and a large wood products pilot plant is accessible at SIUC School of Technical Careers.

Geography

Programs offered through the Department of Geography lead to the Master of Arts, Master of Science and the Doctor of Philosophy degrees in geography. Students may also complete requirements for the Master of Science in Education degree in secondary education with a teaching specialty in geography. Concentrations are available in several areas that represent the major teaching focus and research interests of the faculty. These include:

PHYSICAL ENVIRONMENTAL SYSTEMS

Topics include: theory of environment, urban climatology, water resources hydrology, climatic change, applied meteorology.

RESOURCE MANAGEMENT SYSTEMS

Topics include: the role of resources in economic development and regional planning from a physical, technological, social, economic, and geographical viewpoint; public policy choices for land, air, and water quality management.

URBAN AND REGIONAL PLANNING (MASTER'S LEVEL ONLY)

Topics include: the role of demographic, socioeconomic, political, and historical phenomena as they effect spatial policies for urban and regional organization; public and private resource-allocation criteria, planning agency structure and philosophy.

Courses dealing with research techniques include the management of spatial

data bases, elementary and multivariate statistical models for the analysis of areal or regional patterns, specialized computer mapping, forecasting methodologies, and principles of research. These courses provide the basic tools for research in the department's three substantive areas. The graduate program is based upon an interdisciplinary problem-solving perspective and major linkages exist within the university with many other departments.

General Requirements

The graduate program for each student is structured from a student inquiry viewpoint. Students take the initiative in designing and carrying out their programs with the guidance of an adviser and the departmental faculty. Each student's progress is assessed at the end of each semester by the faculty, and the student is expected to show continued progress and, in particular to develop habits of critical analysis and dialogue.

Masters Degree

Advisement. Students newly admitted to the master's degree program are advised by the graduate program director, with the assistance of departmental faculty. Students choose a permanent adviser at the end of the first semester in residence, or when they have chosen a concentration and a research topic. The choice of permanent adviser is made in consultation with the graduate program director and the departmental chairperson, taking into consideration such matters as faculty expertise and faculty advisee loads.

Course of Study. A proposed course of study, identifying courses to be taken, research skills to be developed; deficiencies to be rectified will be initiated by the student in consultation with an adviser, and approved by the student in consultation with that adviser. The proposed course of study shall include Geography 410-4, Techniques in Geography and Geography 500-4, Principles of Research, at least two geography courses at the 400 level, and at least two geography seminars pertinent to the student's program.

Degree Requirements. In addition to the master's degree requirements of the Graduate School, the student shall:

1. Arrange for an adviser and master's advisory committee in consultation with a tentative adviser before the end of the first year of graduate studies.
2. Develop a thesis or research paper proposal. The thesis or research paper proposal must be approved by the student's master's advisory committee before the student registers for Geog. 599 (Thesis) or Geog. 593 (Research in Geography). A total of 4-6 credit hours of Geog. 599 may be awarded for a thesis at the discretion of the advisory committee upon final examination on the thesis (see #4 below). A total of 2-3 credit hours may be awarded for a research paper.
3. The student will submit a thesis or research paper to the advisory committee at least two weeks before the comprehensive examination.
4. Students shall complete a comprehensive examination of their programs. Students who write a thesis will be examined by their committees, at meetings that may be attended by other faculty and students. A research paper will be evaluated and approved by the advisory committee. The comprehensive examination and evaluation of thesis or research paper shall be at least six weeks prior to the student's projected graduation date.
5. Upon approval of the comprehensive examination and the thesis or research paper, the advisory committee will request the chairperson of geography to forward to the Graduate School the recommendations of the geography faculty that the master's degree be awarded.

Master of Science in Education Degree. This degree is available from the College of Education from applicants who consider teaching of geography as a career. For further details see the program statement for secondary education or higher education.

Doctor of Philosophy Degree

The Ph.D. degree in geography is a specialized research degree which may be earned in either of two concentrations: physical environmental systems or resource management systems. The Ph.D. program assumes a broad background comparable to that provided by the M.A. or M.S. programs, and is designed to develop a comprehensive yet critically analytic knowledge of theory, literature, research design, and application within one of the two concentrations. In addition, the Ph.D. student will concentrate in two subfields in which to propose creative research.

The Program. The student and the tentative adviser will formulate a program which will demonstrate competence or include a set of core courses comparable to the master's program. The student may elect to demonstrate competence in the course work as outlined in the geography master's program.

Each student will include Geography 510-4, Multivariate Techniques in Geography and three research seminars in the program. Before the end of the first term of doctoral work, the student will select an adviser and they jointly will recommend doctoral committee members to the graduate faculty for certification.

The student and the doctoral committee will ascertain appropriate tools and cognate courses; proficiency in these will be certified by the doctoral committee.

Comprehensive (Preliminary) Examination. Upon completion of the program, and with the approval of a majority of the graduate faculty, the Ph.D. student will offer for a comprehensive written and oral examination two subfields from within either physical environmental systems or resource management systems.

The written portion of the comprehensive examination will be prepared by the student's doctor committee which will evaluate the performance and judge the student's success or failure. The examination then will be circulated to the graduate faculty.

The graduate faculty will be invited to the oral examination which will take place not less than one week or more than two weeks from the time of the written examination. The oral examination will be conducted by the student's doctoral committee with appropriate opportunity for all graduate faculty to ask questions. The student's success or failure of the oral examination will be judged by the student's doctoral committee.

Having passed the comprehensive examination, the doctoral student will present a dissertation proposal at an open meeting of the geography department. The written and oral examination and presentation of the dissertation proposal are prerequisite to admission to candidacy.

Dissertation. The student's written dissertation will be circulated to members of the doctoral committee at least two weeks in advance of the proposed defense. The doctoral committee will announce a public invitation a week in advance and will hear the student's defense at the place and time approved by the Graduate School. The finished dissertation will be sent to the student's doctoral committee for approval. The judgment of the official committee will be expressed to the student and forwarded to the chairperson of the department for recommendation to the Graduate School for conferring of the Ph.D. degree.

Geology

The Department of Geology offers a program leading to the Master of Science degree in geology.

Master of Science Degree

The objective of the master's program is to develop the student's competence in the basic fields of geology and to provide for specialization dependent on student and faculty interest. Facilities and staff are available for studies involving surface and subsurface mapping, structural geology, petrology, paleontology, micropaleontology, palynology, paleoecology, coal petrology, coal geology, stratigraphy, sedimentation, sedimentary environments, crystallography, mineralogy, low temperature geochemistry, ore deposits, petroleum geology, environmental geology, geomorphology, hydrogeology, and exploration geophysics. Many of the faculty are actively conducting research in which statistical and computer techniques are applied to problem solving in the earth sciences. Interdisciplinary research with other departments is encouraged. Preparation for teaching earth science at the high school and junior college level may also be undertaken in cooperation with the College of Education and other science departments.

A student must be admitted unconditionally to the Graduate School before the student can be officially admitted to the master's program in geology. The student will be expected to have satisfactorily completed at the undergraduate level the equivalent of course work in the basic sciences required for a bachelor's degree in geology at Southern Illinois University at Carbondale.

A student admitted with course deficiencies may be required to complete or audit some undergraduate courses. Specific requirements will be determined by the student's advisory committee and the department chairperson. Each student is evaluated on an individual basis, and the student's program is determined by individual career goals and the results of informal preassessment interviews with faculty members.

Requirements

A total of 30 hours of graduate work completed with an average grade of *B* or better constitute minimum credit requirements for the master's degree.

No specific graduate courses are required. Courses taken are determined by the students and their advisory committee. Students will not be permitted to enroll in more than 6 hours of independent study or research courses (exclusive of thesis credits).

A student majoring in geology may select a minor field. Minimum course-work should then include 20 hours of geology and 10 hours in the minor field.

A thesis subject must be approved by the chairperson of the advisory committee at least 20 weeks before the date of graduation.

A final oral examination, primarily concerned with defense of the thesis, is administered as the last step before graduation. The student may be asked any questions the committee feels should have been covered by courses.

In order to pass the final oral examination a student must receive a favorable majority vote from the thesis committee, meeting in formal session. Should the student fail the final oral examination, the student may, upon concurrence of a majority of the committee, arrange a time for a re-examination not less than 30 or more than 120 days after the first examination. If the student fails the final orals on the second attempt, ineligibility for the master's degree from the Department of Geology will be established.

Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to graduation and a third copy must be presented to the Department of Geology.

Assistantships

Teaching assistantships are awarded and supervised by the Department of Geology. Research assistantships are usually available only from research grants of individual faculty members and are supervised by the faculty member in receipt of the sponsoring grant. Research assistantship awards require advance approval of the assistantship committee of the department.

As a matter of policy, the Department of Geology does not ordinarily provide any student working for a master's degree financial support for more than two years. Requests for relaxation of this policy must be made in writing to the department chairperson.

Southern Illinois and adjacent areas offer a wide variety of geological conditions ideal for individual study and research. Experienced staff members work closely with students and provide individual assistance when necessary. The Illinois State Geological Survey and several major companies in the petroleum industry actively support geological work in this area.

Guidance and Educational Psychology

The Department of Guidance and Educational Psychology offers graduate programs leading to the Master of Science in Education degree in guidance and educational psychology with concentrations in (1) guidance and counseling and (2) educational psychology, and the Specialist degree in (1) guidance and counseling.

In addition, the department actively participates in the Ph.D. degree in education program.

The Department of Guidance and Educational Psychology in cooperation with other academic units offers graduate work in adult education. Inquiries about such work should be directed to the chairperson of the department.

Master of Science in Education

Admission is based upon an analysis of the academic and personal potential of the individual. Prerequisites include:

1. Admission to the Graduate School.
2. Completion of departmental application form.
3. Applicants must be eligible to hold a teaching certificate if interested in elementary or secondary school employment. Employment as a school psychologist is one example where a teaching certificate is not required. Special cases examined by the selection and review committee may arise. In such instances each situation will be reviewed carefully on appeal from the individual concerned.
4. Applicants for the master's degree who have earned a 2.70 grade point average (based on 4.0 as A) in the undergraduate degree will be admitted to graduate study. Those students whose averages are below 2.70 but above 2.40 may, with good reason, petition that the selection committee of the guidance and educational psychology department accept them conditionally in accordance with the regulations of the Graduate School.
5. Submission of four reference letters or letters of recommendation from professors, academic advisers, former employers, fellow teachers, or others familiar with the applicant's academic performance, research, teaching or other relevant work. The referent should be asked to comment upon the

applicant's personal qualities—ideals, honesty, and leadership—ability to work in one's chosen career field (relationship with peers and organization ability), academic achievement, work experience, sense of job responsibility. Reference letters should be mailed direct to the Department of Guidance and Educational Psychology. (Students electing the educational psychology concentration may submit three letters.)

GUIDANCE AND COUNSELING

A student admitted to the concentration of guidance and counseling may select programs in preparation for work in the elementary or secondary school setting or for positions in higher educational settings, or for work in related areas such as career development centers, and child guidance centers. The degree emphasis is in child or adolescent, and adult counseling. The student is expected to develop competence in counseling. It is the intent of this program to prepare counselors in the following areas: (1) the counselor as a person, (2) counseling services, (3) career development, (4) human/environment assessment, (5) consultation, (6) coordination, (7) research and evaluation, (8) referral, and (9) change agency. The student is expected to develop a philosophy of education and the role of counseling and guidance services within this philosophy.

Admission Requirements. Students electing a concentration in guidance and counseling must meet general departmental admission requirements and:

1. Must have one year of full time employment subsequent to receipt of their bachelor's degree or be 24 years of age at the time of application to the program. Special cases examined by the selection and review committee may arise. In such instances each situation will be reviewed carefully on appeal from the individual concerned.
2. Receipt from an appropriate university or other agency of scores received on the Miller Analogies Test. This test can be taken on campus at the student's convenience.
3. Complete an autobiographical sketch. The Department of Guidance and Educational Psychology selection and review committee is interested in each applicant as an individual. The autobiographical sketch should comment upon the following:
 - a. Early life experience which may have influenced your development, e.g., significant incidents in your home with parents, siblings, friends; work and responsibilities as an employee or member of a group; experience in school and elsewhere.
 - b. College experience including a listing of organizational memberships, offices held, and other activity participation which influenced a decision to apply for the chosen program of study in the Department of Guidance and Educational Psychology.
 - c. Work and other experiences, e.g., teaching, summer camping, church work, work in industry, which support your chosen program of study in the Department of Guidance and Educational Psychology.
 - d. Interpersonal relationships with your peers and other educators which influenced your decision to enter education which may affect your success as a professional educator.
 - e. The role you perceive to be that of the educator-counselor as one relates to the students, the faculty, and the administrative staff.
 - f. The social issues which you believe to be most important to mankind.
 - g. A brief summary of why you feel that you will succeed in your chosen field of work.

Academic Requirements.

1. Minimum of 36 hours of course work with a minimum grade point average of 3.0.
2. All candidates will be required to pass one written examination during the semester in which the requirements for the master's degree are completed. A written request from students signed by the advisers, must be submitted one month prior to the examination date. Should the candidates fail to pass the comprehensive examinations, they can expect to complete additional work as determined by the examining committee.
3. A thesis or equivalency paper in lieu of thesis is required.
4. As part of their practicum experience, full time graduate students will be placed in an appropriate educational setting for a minimum of one and a half days a week. This experience will occur during the second and third semester. Laboratory experiences and a seminar appropriate to the field work will be included. Special arrangements will be made for part time students.

Curriculum. Adolescent and adult counseling: students interested in counseling adolescents and adults are required to complete the following courses within the department: 562b Human Development in Education (3hrs.); 538 Interpersonal Relations: Theory and Practice (4 hrs.); 542 Career Development Procedures and Practice (4 hrs.); 530 Standardized Testing: Use and Interpretation (4 hrs.); 543 Group Theory and Practice (3 hrs.); 547 Implementing Guidance Services, required only for public school counselors, (3hrs); 502 Basic Statistics (3 hrs.); 494b Adolescent and Adult Counseling Practicum (3 hrs.); 494c Career Planning Practicum (3 hrs.). Elective courses will be determined jointly by the student and the academic adviser.

Child counseling: students interested in counseling with children are required to complete the following courses: 562a Human Development in Education (3 hrs.); 521 Analysis of Classroom Behavior—Consultative Practices for School Personnel (3 hrs.); 537 Counseling with Children: Theory Techniques, and Practice (4 hrs.); 530 Standardized Testing: Use and Interpretation (4 hrs.); 543 Group Theory and Practice (3 hrs.); 547 Implementing Guidance Services, required only for public school counselors (3 hrs.); 494a Child Counseling Practicum (3 hrs.). Elective courses will be determined jointly by the student and the academic adviser.

EDUCATIONAL PSYCHOLOGY

The student enrolled in the concentration of education psychology may select specializations in (1) human learning and development and (2) applied instructional psychology. The respective objectives and curricula for each specialization are described below. Requirements for admission, retention, and graduation (which are mostly common for both program emphases) follow.

Admission Requirements. Students electing a concentration in educational psychology must meet general departmental requirements and should submit examples of previous work, related to education or psychology, i.e., papers, articles, curriculum materials, etc., as direct evidence of student's potential in this concentration. This is highly desirable, but not required.

Academic Requirements. Academic requirements common to both specializations include:

1. A B average in a sequence of prescribed courses totaling 32 semester hours.

2. A thesis must be written for the educational research specialization. The thesis topic is to be formally approved and the thesis is to be read and accepted by the student's adviser and one other member of the departmental faculty. Students in the applied instructional psychology specialization will submit a paper or product based on their internship work in lieu of a thesis. As with the thesis, the paper or product will be judged by at least two department graduate faculty.

EDUCATIONAL PSYCHOLOGY—HUMAN LEARNING AND DEVELOPMENT

Program Objectives. The master's degree program with a specialization in human learning and development is designed to provide students with fundamental knowledge and inquiry skills in the areas of human learning, development, socialization, instruction, research design, and quantification procedures. The program is primarily designed for individuals preparing for doctoral work in educational psychology. Some occupations open to students completing this degree include: research work in public schools, universities, research and development centers, school psychology and industrial, military, or rehabilitation settings. Graduates might also be employed as teachers in universities and junior colleges.

Curriculum. Students will study in three areas which are designed to provide the necessary foundation in the major areas of educational psychology. The program will be determined jointly by the student and the academic adviser in accordance with the following departmental requirements.

1. Learning: 6 hours.
2. Design and Quantification: 10 hours.
3. Social-Developmental: 6 hours.
4. Thesis: 6 hours.
5. Elective: 4 hours.

A total of 32 semester hours is required.

EDUCATIONAL PSYCHOLOGY—APPLIED INSTRUCTIONAL PSYCHOLOGY

The master's degree with a specialization in applied instructional psychology is designed to make a teacher more effective in the classroom. Emphasis will be on interpersonal relations and group dynamics in the classroom, cognitive and affective growth, classroom discipline, and psychological trends, problems, and issues in contemporary education. Design and development of classroom tests will be covered as well as the use and interpretation of standardized tests.

There are two options for completing the program. First, there is an option for part-time students, such as teachers. This option is designed to take two summers and two academic years to complete. But the reader should note that only one course is taken during each semester of the academic years. More than one course can be taken by consent of the department and thereby reduce the completion time. Courses will be offered in the late afternoons or evenings so that teachers who are employed can attend them. The second option is for full-time students. This option can be completed in two summers and one academic year.

An internship is part of this master's degree program. The internship requirement can only be satisfied by professional work in an elementary, secondary, or post-secondary school.

The degree requires 30 hours of work which includes two electives and one paper (one hour credit) which is to focus on the internship experience (Guidance 595) and which is in lieu of a thesis. One elective should be in a content area of the student's choice; such as reading, math, science, social studies, etc. The other elective should be from special education and should involve training of

handicapped children; that is, mentally retarded or defective, hard of hearing or deaf, poor eyesight or blind, stutterers, epileptics, etc.

The part-time and full-time options are illustrated below. They should not be interpreted as fixed sequences of courses or completion times. There is considerable flexibility and other schedules and sequences can be arranged with departmental consent.

Option 1 (part-time students)

First summer: two electives

First fall: 512

First spring: 518

Second summer: 412, 530

Second fall: 513, 595 (4 hrs)

Second spring: 595 (4 hrs), paper

Option 2 (full-time students)

First summer: two electives

First fall: 512, 513, 530

First spring: 412, 518, 595 (4 hrs)

Second summer: 595, (4 hrs), paper

The Specialist Degree

The Specialist degree in guidance and educational psychology is awarded to students who complete successfully the equivalent of a year of sequenced training (minimum 30 hours) beyond the master's degree. Students who complete the program of study may qualify for positions as pupil personnel administrators or counselors with special populations or for admission to an internship in school psychology.

The specialist program in school psychology is designed to train service oriented personnel practitioners with interests in children, adolescents, and adults who have learning and social adjustment problems related to their schooling. This is often interesting and challenging work with employment opportunities in public and private schools as well as clinics, agencies, hospitals, and institutions. The emphasis in the program is on diagnostic assessment, consultation, and the development of remedial programs. There is also an emphasis on increasing awareness and sensitivity to the school as a social system. Efforts are made to increase the understanding of relationships among professional personnel as well as among school staff members, students, and families. There is a strong commitment in the program to implement the evaluation efforts of the psychologist in all aspects of the school setting.

Program Objectives

The specialist program is designed to meet the needs of school personnel through an interactive model of training involving local school districts, the Illinois Office of Education, the College of Education, and other appropriate resources. All students who complete the specialist program will be expected to have skills and knowledge in the areas of:

1. Consultive roles of school specialists
2. Learning and developmental theory
3. Case study procedures and individual appraisal
4. Evaluation of school programs and learning processes
5. Management of classroom behavior
6. Specialized individualized programming

Students, with their advisers, will select a designated course of study to meet student, professional, and degree requirements. Laboratory practice and experiences in the schools will be utilized to relate knowledge gained through formal coursework to the skills required on the job.

Admission Procedures

Admission to the program of study is established by the approval of the admissions committee. Procedures are listed below:

1. Completion of the application for admission to graduate study in duplicate. These forms may be obtained from the Graduate School.
2. Submission of an official transcript of all previous college coursework to the Graduate School.
3. Completion of the application for admission forms to the Department of Guidance and Educational Psychology and compliance with other departmental admission requirements (letters of recommendation, test scores, as identified on the admissions application).

Admission Criteria Required by the Department

1. A master's degree or its equivalent is required in educational psychology, special education, guidance, or a related area.
2. Submission by an appropriate university or other agency of scores received on the Graduate Record Examination or the Miller's Analogies. The tests may be taken at Southern Illinois University at Carbondale.
3. A 3.25 graduate grade point average (based on 4.0 as A) will be required of the applicant for the Specialist degree for unconditional admissions to the program.
4. A student must be admitted by both the Graduate School and the school psychology admissions committee.
5. Students should, but are not required to have academic competencies in the following areas for unconditional admittance to the Specialist degree program.

Competency Areas and Suggested Courses.

1. Statistics. Basic Statistics, Intermediate Statistics, Research Design
2. Measurement. Standardized Testing, Principles of Measurement
3. Personality. Human Behavior and Mental Health, Personality Theory, Psychopathology
4. Development. Child Development, Adolescent Development, Advanced Child Psychology, Developmental Theory
5. Learning and Cognition. Learning Theory, Instructional Psychology, Cognitive Development, Human Memory

The admissions committee will inform appropriate University offices when the applicant has been accepted into the program of study.

Degree Requirements

1. The requirements for the Specialist degree are reviewed in the Graduate School catalog. A minimum of 30 semester hours beyond the master's degree with a 3.25 grade point average is required for all coursework taken at the specialist's level.
2. A candidate is required to pass a written comprehensive and an oral examination over coursework after 24 semester hours have been completed. An evaluation is also made of the candidate's performance in the supervised practicum.
3. A scholarly paper or project is required on a topic formally approved by the student's specialist committee.

The Educational Program and Training Facilities

The specialist program includes formal coursework, seminars, and practicum

experiences appropriate to the Specialist degree. In addition to formal didactic and seminar work:

1. The student shall have the opportunity to observe practicing professionals in educational settings. Involvement and participation will include professional staffings and case discussions. These experiences will be obtained at the cooperative Clinical Center on campus and at nearby centers and schools that cooperate in the program.
2. There will be an opportunity for work experience representative of job activities appropriate to the candidate's specialization. Participation as a student member in appropriate professional organizations will be encouraged.
3. Opportunities for consultative experiences will be available directly during the practicum and indirectly by observation in the clinic. These experiences will be extended by an internship that provides opportunity for supervision beyond formal classroom training requirements.
4. There will be opportunities and experiences for the student to communicate with other significant people in the educational planning for children.
5. The educational program for the Specialist degree is designed to be flexible to the degree that specific courses to meet area and professional competencies will be at the discretion of the student and the adviser.

However, the student will follow the guidelines suggested below so that minimal competencies for the Specialist degree will be assured.

Guid 521-3 Analysis of Classroom Behavior.

Spec Ed 511A-3 Advanced Assessment and Remedial Planning in Special Education.

Spec Ed 512-3 Advanced Assessment and Remedial Planning for the Preschool Handicapped Child.

Guid 533-3 Individual Measurement and Practice.

Guid 546-3 Personality Assessment.

Guid 494D-1 to 6 Practicum in School Psychology.

Guid 555-1 to 6 Seminar in School Psychology.

Guid 596-5,5 Internship in School Psychology.

ELECTIVE COURSES—LIST NOT INCLUSIVE

Curriculum, Instruction, and Media.

CIM 402-3 Education for Disadvantaged and Culturally Different Students.

CIM 515-3 Diagnosis and Correction of Mathematics Disabilities.

CIM 521-4,4 Diagnosis and Correction of Reading Disabilities.

Guidance and Educational Psychology.

Guid 512-3 Affective and Cognitive Behavior at the School Level.

Guid 530-4 Standardized Testing: Use and Interpretation.

Guid 532-3 Intelligence Test Theory.

Guid 537-4 Counseling with Children: Theory Technique and Practice.

Guid 549-3 Group Theory and Practice.

Psychology.

Psych 432-3 Psychopathology of Childhood.

Psych 440-3 Theories of Personality.

Psych 534-3 Behavior Therapy.

Psych 535-3 Psychopathology.

Rehabilitation.

Rehab 503-3 Basic Behavioral Analysis.

Rehab 543-3 Child Behavior.

Rehab 545-3 Behavior Modification in Mental Retardation.

Rehab 564-3 School Related Behavior.

Special Education.

Problems and Characteristics of

Spec Ed 401-3 The Behavior Disordered Child.

Spec Ed 402-3 The Mentally Retarded.

Spec Ed 403-3 The Gifted Child.

Spec Ed 404-3 The Learning Disabled Child.

Spec Ed 406-3 The Severely Handicapped Child.

Methods and Materials for Teaching

Spec Ed 417-3 Behaviorally Disordered Children.

Spec Ed 418-3 Educable Mentally Handicapped Children.

Spec Ed 419-3 Learning Disabled Children.

Spec Ed 421-3 Preschool or Elementary Severely Handicapped Learners.

Health Education

The Department of Health Education offers four concentrations for the Master of Science in Education degree in health education: school health education, community health education, industrial health, and safety education. The department participates in the Ph.D. degree in education. Students interested in seeking employment in the area of industrial safety are encouraged to consult with the chairperson regarding appropriate courses.

Master of Science in Education Degree

Admission. Permission to enter graduate programs in health education is by application approval of the department and fulfillment of the following extra requirements:

1. Admission to the Graduate School.
2. Five letters of reference from persons who can evaluate past performance and potential for graduate work should be sent to the office of the department chairperson.
3. Miller Analogies Test scores must be submitted. Students may take this test on the campus of SIU at Carbondale.
4. Candidates for the master's degree must have a 2.70 grade point average ($A = 4.0$) to be admitted in good standing. Students with grade point averages below 2.70 but above 2.40 may petition the department and, if accepted, will be admitted conditionally in accordance with regulations of the Graduate School.

Additional admission requirements for the concentration in school health education or safety education:

Candidates should be certified for teaching. Exceptions to this requirement may be appealed to the academic affairs committee of the department. Students enrolled in Health Education 434 must have psychomotor and communication skills. If questions arise concerning an individual student, an assessment will be made if necessary minimum psychomotor and communications skills are present. This assessment will be utilized to determine whether the individual student possesses these basic skills to enter the first aid class. The final assessment of the skills of each student will be made by the first aid coordinator in the Department of Health Education.

Additional admission requirements for the concentration in community health education:

1. Candidates must have undergraduate preparation in a discipline providing an adequate foundation for graduate work in community health education: i.e., nursing, biological science, health science, or social sciences.
2. Candidates planning to teach will be expected to meet certification requirements for teachers in Illinois.

Degree Requirements

SCHOOL HEALTH AND SAFETY EDUCATION

In school health and safety education, a minimum of 24 hours in health education including a common core of 8 semester hours (533a, b) and a total of 32 graduate hours are required for the degree.

COMMUNITY HEALTH EDUCATION

The program in community health education requires a total of 40 semester hours, 8 of which must be gained through 12 weeks of practical field work experience. In addition to the common core courses (533a, b) of 8 semester hours required of all master's degree candidates, the community health education concentration requires Health Education 488, 489, and 500. A minimum of 2 semester hours in communications or group work methods is strongly urged.

INDUSTRIAL HEALTH

The industrial health option requires a total of 40 semester hours including a common core of 8 semester hours (533a,b). A practicum which includes experience in industry is required of all candidates. A minimum of 26 hours in health education including a common core and the practicum are required for the degree.

Higher Education

The Department of Higher Education provides graduate study leading to the Master of Science in Education degree in higher education and to a concentration in higher education for the Doctor of Philosophy degree in education.

Pre-service and in-service preparation is provided for persons who are teaching or serving as administrators or who expect to teach or serve as administrators in two-year and four-year colleges and universities and related post-secondary educational institutions.

The Master of Science in Education

The Department of Higher Education offers four concentrations leading toward the Master of Science in Education degree in higher education: academic administration, fiscal affairs administration, college student personnel, community and junior college teaching. Students interested in one of these master's degree programs may obtain information and advisement from the advisers of the respective programs through the Department of Higher Education.

The Department of Higher Education in cooperation with other academic units also offers graduate work leading to the Master of Science in Education degree with a concentration in adult education. Inquiries about this concentration should be directed to the chairperson of the department.

Application. Inquiries regarding application should be directed to the chairperson of the Department of Higher Education. Each applicant must submit an application to the Graduate School. In addition, an applicant is required to submit to the Department of Higher Education the departmental application form, an autobiographical statement, three letters of reference (special form

provided), and test results from either the Miller Analogies Test or the Graduate Record Examination.

Admission. Students applying for academic administration or for college and university business affairs should have had two years of full-time experience in higher education. Students applying to the fiscal affairs administration master's program may be required to have taken certain courses in or to have attained at least one or more competencies related to fiscal affairs. Students considering college student personnel programs should show some evidence of interest or participation in student personnel programs as an undergraduate. Students applying for the specialty in community and junior college teaching are expected to have an undergraduate concentration in a subject area commonly taught in a community college.

Each applicant is considered for acceptance on an individual basis with much consideration being given to evidence showing the applicant's commitment to higher education as a field of study and as a career.

Retention. Each student works closely with an adviser for program preparation. Each student also has a committee which assists in reviewing the student's progress, in supervising the thesis or research paper, and in administering the final examination. The records of each master's degree student are reviewed periodically by the adviser and committee to determine whether the student should continue in the program.

Program Requirements. Each student will develop with an adviser a suitable sequence of courses that will be designed to assist the student in attaining academic and professional objectives. In each of the specialties there are particular requirements that should be noted.

ACADEMIC ADMINISTRATION

thirty-two semester hours (minimum).

Required Courses: 17 Semester Hours.

- Hi Ed 501-2 Research in Higher Education
- Hi Ed 510-3 Higher Education in the United States
- Hi Ed 513-3 Organization and Administration in Higher Education
- Hi Ed 516-3 College Students and College Cultures
- Hi Ed 518-3 College Teacher and College Teaching
- Hi Ed 535f-1 Academic and Faculty Administration
- Hi Ed 545e-2 Problems in Central Administration

An internship experience is required if an exception was made in waiving the pre-admission work experience. In addition, one or more professional competencies related to academic affairs are required.

FISCAL AFFAIRS ADMINISTRATION

thirty-two semester hours (minimum).

Required Courses: 16 Semester Hours.

- Hi Ed 501-2 Research in Higher Education
- Hi Ed 513-3 Organization and Administration in Higher Education
- Hi Ed 518-3 College Teacher and College Teaching
- Hi Ed 528-3 Finance in Higher Education
- Hi Ed 535f-1 Academic and Faculty Administration
- Hi Ed 545e-2 Problems in Central Administration
- Hi Ed 545f-2 Business and Fiscal Affairs

An internship experience is required if an exception was made by waiving the pre-admission work experience.

One or more professional competencies related to college and university fiscal affairs are required.

COLLEGE STUDENT PERSONNEL

forty semester hours (minimum).

Required Courses: 16 Semester Hours. Includes 2 hours of credit internship

Hi Ed 501-2 Research in Higher Education

Hi Ed 515-3 College Student Development: Operations and Policies

Hi Ed 516-3 College Students and College Cultures

Hi Ed 525-3 Philosophy of Higher Education

Hi Ed 595-2 Internship in Higher Education

Guidance 502-3 Basic Statistics

An internship experience (paid) is required.

Students are encouraged to develop an interdisciplinary program preparing them in general student personnel administration or in one or more of the particular student services.

COMMUNITY AND JUNIOR COLLEGE TEACHING

thirty-two semester hours (minimum).

Required Courses.

Courses in the teaching specialty: 20 semester hours

Courses in Higher Education: 12 semester hours

Hi Ed 516-3 College Students and College Cultures

Hi Ed 518-3 College Teacher and College Teaching

Hi Ed 521-3 Curriculum Design and Policy

Hi Ed 526-3 Community College

Recommended beyond the minimum requirements:

VES 466-3 Principles and Philosophies of Vocational, Occupational, and Career Education (for those planning to teach in an occupational program)

Hi Ed 501-2 Research in Higher Education

Hi Ed 595-2 to 6 Internship (when feasible)

An internship cannot be assured, but effort is made to provide such an experience when possible.

Research Requirements. Each student shall demonstrate research competencies through writing an acceptable master's thesis or a research paper. Students selecting academic administration or fiscal affairs are usually asked to write a thesis and to demonstrate research competencies as outlined by their committee. Students in college student personnel usually prepare research papers on a topic concerned with student development and related activities. Students in community and junior college teaching must submit an acceptable research paper on a topic in the teaching field with the approval coming from both the adviser in the Department of Higher Education and the representative from the subject-area department who agrees to work with the student in writing the paper. In exceptional cases, the paper may be in higher education instead of the teaching field. In some instances, the student may wish to meet the thesis requirement instead of the research paper requirement.

Final Examination. All master's students are required to complete successfully a final examination which may be written or oral or both. Upon the successful completion of all requirements, including a *B* average for all course work, the student is recommended to the Graduate School for graduation.

Financial Aid

The Department of Higher Education makes an effort to find financial support for its graduate students through a number of graduate assistantships available throughout the University in different administrative offices and residence halls. Students should consult their academic advisers about possible financial assistance including graduate fellowships.

History

From a small beginning as a normal school, Southern Illinois University at Carbondale has become a major university with more than 22,000 students and approximately 1,500 faculty. Much of the growth has come since 1947, when the institution became a multipurpose and diversified university with many graduate programs.

In 1944, the Department of History inaugurated the Master of Arts degree and members of the department recruited faculty and significantly expanded its library resources as early as 1954. Fifteen years later, departmental planning culminated in the approval of the Ph.D. program in historical studies.

The Department of History now has a faculty of 21 members and 14 graduate assistants. The department has about 200 students working toward the bachelor's degree. In 1979 & 1980, the University granted 15 master's degrees in history.

Together with their continuing concern for teaching, the history faculty have engaged in a wide range of research projects. They have published broadly in scholarly journals and authored dozens of books. They have also served as officers of professional organizations, participated in international exchange programs, served as advisers to several university presses, and provided numerous services and programs for university and community life.

Research Facilities

Morris Library on the campus is the fourth largest library in Illinois. Housed in a modern seven-story building, it contains 1.8 million volumes and is growing at a rate of over 60,000 items per year. For several years Morris Library has been acquiring current scholarly publications not only from American but also from Latin American and European publishers. The long-term use of highly specialized materials is afforded by the affiliation of Morris Library with the Center for Research Libraries in Chicago.

The holdings in history and related areas amount to more than 500,000 volumes. To these must be added 20,000 reels of microfilm containing printed secondary works and 6,000 volumes of printed source material and 30,000 volumes of early American imprints prior to 1800 on microtext. Among the materials in the process of acquisition is a microtext edition of all newspapers published in the United States prior to 1820.

The library also possesses substantial holdings in the form of microfilm editions of presidential papers, dispatches and instructions of the state department since 1789, massive holdings in consular records, and the Adams family papers. The library has been a complete repository of United States government documents since 1954 and holds a large collection of earlier documents, including a virtually complete Congressional set. With the publication of the Ulysses S. Grant papers by the Southern Illinois University Press and the location of the Grant Association on the campus, the library is acquiring what will become the country's leading collection of Grant books and correspondence.

Following the acquisition of the 7,000-volume library of Jose Morgrovejo Carrion of Ecuador in 1960, the library has systematically expanded its holdings in Latin American history, government, literature, and anthropology. The papers of Vasquez Gomez, Mexican vice-president (1907-1919), and Samuel Putnam, American expert on Latin American affairs, provide rich research opportunities. Extensive files of serial publications from Argentina, Bolivia, Paraguay, Uruguay, Cuba, and Mexico also contain diverse sources for investigation. Many of the above materials are unavailable elsewhere in the United States.

Holdings in European history include the standard documentary publications, as well as scholarly serials and journals. The materials to support research are strongest in modern European and English history.

Admission

Graduate work in history is offered at both the master's and the doctoral levels. Admission to programs administered by the Department of History must be approved by the department, with approval dependent upon the preparation, ability, and promise of the individual student. For the Master of Arts degree in history, the department has no formal admission requirements beyond those of the Graduate School, except that students admitted with a GPA of less than 2.7 must establish a 3.00 GPA in history courses in the first semester. The department reserves the right to terminate from the history program a student who does not establish and maintain a 3.00 GPA in history courses. For admission to the doctoral program, each applicant should submit to the department, in addition to the material sent to the Graduate School, the following: three letters from former teachers, preferably at the graduate level; a letter in which the applicant expresses his professional and personal objectives; and a report of the result of the aptitude test (both verbal and quantitative) and the advanced test in history of the Graduate Record Examination.

The Master's Degree

Three concentrations are offered for the Master of Arts degree in history: American, Latin American, and European. History may be chosen as a minor when a student's program of study allows for a graduate minor or as a teaching specialty for the Master of Science in Education degree in secondary education or in higher education.

Students enrolled in the Master of Arts degree program must consult with the graduate adviser in the Department of History before registering for courses. Students enrolled in either of the Master of Science in Education degree programs must consult the appropriate adviser in the administrating department in the College of Education before registering for courses.

For the Master of Arts degree in history, 30 semester hours of satisfactory graduate work are required; at least 15 of these 30 hours must be on the 500 level. Within this general requirement, at least 20 semester hours must be in appropriate history courses, with at least 10 of the 20 hours on the 500 level. The remainder of the hours may be taken in courses on the 400 level. The M.A. student must take at least six hours of graded 500-level courses. A candidate for the Master of Arts degree must demonstrate proficiency in one foreign language, statistics, or computer programming.

The language requirement may be fulfilled either by passing Foreign Language 488b with a grade of *A* or *B* or by passing a reading examination offered by the Educational Testing Service.

Graduate students may demonstrate proficiency in quantitative methods by passing, with a grade of *A* or *B*, two courses from among the following: Computer Science 202; Guidance 506 and 507; Political Science 503; Math 514, 515,

and 516A and B. The courses selected will be determined in consultation between the student, the student's adviser, and the graduate adviser. With the consent of the graduate adviser and student's adviser, other courses in statistics and computer science may be accepted in fulfillment of the research tool requirement. The Candidate may fulfill the research requirement through either the thesis or the non-thesis program.

A candidate in the thesis program should, with the approval of the chairperson, select a thesis adviser and a thesis topic by the end of the first full-time semester in the program. As many as six semester hours may be in thesis research. Candidates must submit an acceptable thesis and pass a comprehensive oral examination covering their fields of specialization and their theses.

A candidate in the non-thesis program must receive an *A* or *B* in two separate research seminars. A copy of one paper must be filed with the Graduate School; copies of both papers must be filed with the department. Each candidate is required to pass a comprehensive written examination conducted by a committee consisting of three persons. The examination will cover two fields of the candidate's choice.

DIVISION I—AMERICAN HISTORY

United States to 1877

United States 1865 to present

DIVISION II—LATIN AMERICAN HISTORY

Colonial

19th Century

20th Century

DIVISION III—EUROPEAN HISTORY

Ancient

Mediaeval

England since 1600

Europe, 1450-1789

Europe, 1789 to present

DIVISION IV—ASIAN HISTORY

The Doctor of Philosophy Degree

Students seeking the Ph.D. degree in historical studies must complete at least two years of full-time graduate work beyond the bachelor's degree or one year beyond the master's degree (or its equivalent), and submit a satisfactory dissertation. The courses and hours of credit necessary for a doctoral student to prepare for preliminary examinations will be determined by the student's advisory committee. The goal is to develop high competence in the five selected fields in which the student will be examined. Full-time Ph.D. degree students who have not passed their preliminary examinations must take, in each semester, at least six hours of graded courses, at least three of which must be on the 500 level. Dissertation hours may be taken prior to admission to candidacy only with the approval of the graduate studies committee.

The department requires all candidates to pass a reading examination in two foreign languages. With the approval of the department, statistics or computer programming may be substituted for one language. Procedures for demonstrating proficiency in foreign language, statistics, or computer programming are the same as those required for the Master of Arts degree. The

language requirement must be satisfied prior to the preliminary examinations.

The department offers advanced study in thirteen fields of history which are grouped in four major divisions.

DIVISION I—AMERICAN HISTORY

Colonial

United States, 1776–1865

United States, 1865–1919

United States, 1919 to present

Mississippi Valley and Illinois

DIVISION II—LATIN AMERICAN HISTORY

Colonial

19th Century

20th Century

DIVISION III—EUROPEAN HISTORY

Mediaeval

England since 1600

Europe, 1450–1815

Europe, 1789 to present

DIVISION IV—ASIAN HISTORY

Each student will be responsible for five fields with either all five in history or four in history and one in a minor subject. For preliminary examinations, the student will present four fields, all in history or three in history and one in a minor field. The student will be certified in a fifth field, either in history or in a minor subject, by taking courses and passing them to the satisfaction of the advisory committee and the professors in that field. Not more than three fields may fall within any one of the above divisions. The preliminary examinations will consist of a three-hour written examination in each of the four fields and a two-hour oral examination covering all fields.

After completing the course work, fulfilling the foreign language requirements, and passing the preliminary examinations, the student will be recommended for Ph.D. candidacy and will devote full time to the dissertation. Dissertation subjects must be chosen from either American history, Latin American history, or European history. Subjects in American history may fall within any field listed in division I above. Subjects in Latin American history may fall within any field listed division II. Subjects in European history may be chosen from selected topics in modern continental European history. The final oral examination will cover the field of the dissertation and related matters.

Assistantships and Fellowships

Fellowships and teaching assistantships are available to qualified graduate students. All carry stipends and remission of tuition. Application for these awards should be submitted by February 1.

Additional information concerning the graduate program in history may be obtained by writing to the chairperson, Department of History.

Home Economics Education

(See Vocational Education Studies for program description.)

Home Economics

(See Comprehensive Planning and Design and Human Development)

Human Development

The Master of Science degree in human development is offered with concentrations in the professional options in child and family, family economics and management, and food and nutrition.

CHILD AND FAMILY

The concentration of child and family is designed to give students a knowledge and understanding of individual and family development within appropriate cultural contexts, to provide practical experience in a variety of settings that require an understanding of family life and relate to the people-helping fields, and to develop an academic setting for research and applied programs appropriate to the support of individual and family development.

FAMILY ECONOMICS AND MANAGEMENT

The concentration in family economics and management seeks to develop students' understanding and knowledge of factors associated with family resource management. Specific areas of concern are resources of economically disadvantaged families, the consumer's ability to handle available resources, and social and economic aspects of housing the family from the viewpoint of the household and the community.

FOOD AND NUTRITION

The concentration of food and nutrition provides advanced knowledge in human nutrition; the impact of nutrition upon the physical and mental well-being of individuals, families, and communities; and the scientific foundation and techniques supporting the knowledge of nutrition. The curriculum is dedicated to the areas of dietetics, community nutrition, and nutrition teaching and research. The concentration also provides a route, other than internship, to registration as a dietitian.

Degree Requirements

To be admitted to the program for the Master of Science degree in human development the student must:

1. Be admitted to the Graduate School.
2. Complete an undergraduate degree which need not necessarily be in human development. Deficiencies in course prerequisites to the graduate courses may be made up after acceptance into the program. Courses taken to satisfy prerequisite deficiencies will not apply to minimum hours' requirements for the degree.
3. Complete any additional divisional requirement which may include the Graduate Record Exam and letters of recommendation. If a foreign student, must present evidence of mastery of English; a score of 550 on TOEFL or at least a C in the appropriate course in ESL is required.

To qualify for the Master of Science degree in human development a student must:

1. Meet the general requirements of the Graduate School and successfully complete at least 36 semester hours of course work as described below.

2. Satisfactorily complete: 6 hours, selected from HD 400, 501, 502, and 503; plus 12 hours in the professional option concentration.
3. Complete an additional 9 hours in course offerings in departments external to human development.
4. Satisfactorily complete Guidance 502 or equivalent and Research Methods 500 as approved by the division.
5. Complete requirements for a thesis, research paper, or project.
6. Successfully pass an oral examination over coursework and thesis, research paper, or project.

Acceptance into the division shall be accomplished through a graduate admissions committee of three graduate faculty members in the division. After acceptance, graduate students shall be encouraged to have private consultation with every faculty member within their chosen concentration during the first semester on campus. Students shall then select major professors with whom they will work out tentative programs.

At the time that students are ready to consider designing a thesis, research paper, or project, they, in consultation with their major professors, will select at least two other qualified faculty members to serve as an advisory committee. The two additional members may be from the University at large or from the unit. At least one member must be chosen from outside the concentration.

The advisory committee shall be convened to discuss, revise, and approve a proposed thesis, research paper, or project, and approve the courses and schedule by which the student plans to meet the remaining requirements. When the thesis, research paper, or project has been completed, the advisory committee shall be convened by the student to administer an oral examination which covers coursework and the thesis, research paper, or project. They shall evaluate the performance of the student and report it to the Graduate School on appropriate forms.

Instructional Materials

(See Educational Media under Curriculum, Instruction, and Media for program description.)

Journalism

The considerable growth of the mass communication industries has caused an increased need for professionally educated men and women with graduate degrees who want to pursue careers as journalists in the mass media, communication specialists in industry and government, researchers, teachers, and university faculty members.

Graduate programs in the School of Journalism are designed to help students achieve significant intellectual growth as they prepare for these careers. It is intended that the student's entire graduate program be a challenging, stimulating, and valuable educational experience. For this reason, the School of Journalism has three degrees, each offering a different approach to graduate education. In each degree program, students take some of their work in departments other than journalism so that they may explore areas of interest to them and inquire into other disciplines.

The School of Journalism offers graduate programs leading to the Master of Arts, the Master of Science, and the Doctor of Philosophy degrees in journalism and mass communication. Students may concentrate their work in these general areas: media history, behavioral studies, legal studies in communica-

tion, and mass media and society. The Master of Arts and Ph.D. degrees are research degrees culminating in the preparation of a thesis or dissertation. Students are expected to conduct research to provide answers to important questions, to discover new information, to show new associations between previously known facts, or to supply historical or legal information about particular subjects.

The Master of Science degree is a media-oriented degree designed to be of benefit to individuals who wish to prepare themselves to be more proficient in their professions and does not necessarily involve the kind of research required in preparing a thesis.

Admission to the Degree Program

Persons seeking admission should consult the appropriate section of the Graduate Catalog. GRE Aptitude Test scores must be submitted either before a student enters the program or during the student's first term in residence. Students without a previous journalism or mass communication degree or professional media background are required to take some undergraduate courses without credit as a way of gaining background. The amount of this course work will be determined by an adviser in consultation with other faculty members. A TOEFL score of 600 or higher is required of all foreign students, except those from English-speaking countries. A minimum undergraduate GPA of 3.0 is expected for acceptance into the graduate program.

Academic Retention

In addition to the retention policies of the Graduate School, the School of Journalism requires that each master's degree student must maintain an overall grade point average of 3.00 (A=4) and each Ph.D. student must maintain an overall grade point average of 3.25 (A=4). Upon falling below this average, students will be allowed two academic terms to bring their averages up to the minimum; failing this they will be dropped from the program and will not be allowed to re-apply. No course in which the grade is below *C* shall count toward the degree nor fulfillment of any requirement, but the grade will be included in the grade point average. No more than three hours of *C* work in graduate courses will count toward either degree.

All students are subject to regular review by the School of Journalism graduate faculty. Those not attaining the minimum acceptable standards or who in any way fail to meet any other requirements or standards set by the faculty will be dropped as majors. Doctoral students may be required to take extra work if any grades of *C* or lower are earned at Southern Illinois University at Carbondale.

Master of Arts Degree

The Master of Arts degree student usually builds on a base of social science and a study of journalism or mass communication leading to a career in teaching, scholarship, or applied research in advertising, public relations, media management, opinion research, or similar areas. The degree also may lead to Ph.D. studies.

Candidates for the M.A. degree must complete a minimum of 30 semester hours of graduate work, including 3 hours for the thesis. Additional courses may be required if students change their areas of interest or if performance in course work or comprehensive examination results indicate the need for more course work. No fewer than 18 nor more than 21 semester hours of course work must be earned in journalism. Remaining course credits should be taken in departments whose disciplines have strong theoretical bases. Courses in some departments may not, therefore, be used to meet requirements. Students often

elect courses in history, psychology, political science, sociology, anthropology, economics, and guidance.

Each student is required to prepare, write, and defend a thesis which demonstrates a capacity for investigation and independent thought. Students must be enrolled for thesis credit during the semester they defend their thesis.

Failure to present and defend an acceptable thesis proposal, or failure to maintain continuous progress toward completion of degree requirements serve as reasons for dismissing a student from the program. Additional work may be required of those students whose progress is interrupted.

Master of Science Degree

The Master of Science degree program in journalism and mass communication provides advanced professional training for careers in the mass media and related areas. Persons with graduate degrees from accredited schools of journalism are in demand by newspapers, magazines, broadcasting, advertising and public relations firms, government, and industry. The growing complexity of communication increases the need for persons sensitive to the intricacies of communicating via the mass media.

The Master of Science degree program is broadly based. It draws upon the resources of a diverse and knowledgeable journalism faculty and upon many other academic areas in the University. From such resources, the School of Journalism provides individually developed programs for graduate students aiming at such careers as newspaper reporting, radio and television news, advertising, public relations, magazine editing, media management, and teaching.

Thirty semester hours are required for the Master of Science degree program, including 3 hours for thesis or a professional project, whichever the student chooses. From 9 to 21 semester hours of course work must be earned in journalism, including one research course and the seminar for Master of Science degree students. Remaining semester hours should be taken in a discipline or disciplines appropriate to the student's area of study. Formal, oral defense both of the thesis or project proposal and of the completed thesis or professional project is required.

Doctor of Philosophy Degree

The Ph.D. program is designed to produce scholars and teachers who can make significant contributions to the understanding and development of the mass media and their utilization. Doctoral studies include the entire process of mass communication, including communication theory, media history, mass media law, and mass media institutions and their interrelationships with other societal institutions. The program asks students to achieve breadth in their studies, but allows each student to develop a special area of interest and research.

Normally, three years of concentrated study, including preparation of a dissertation, will be required to earn the degree, which is built on the base of a suitable master's degree program.

Minimum course requirements for the Ph.D. degree include 38-40 semester hours beyond the master's degree, plus 12-14 hours of research tools. An evaluation of previous work is made and transfer credit is allowed only for work which fits the degree plan. Approximately two-thirds of course credit hours will be earned in journalism and mass communication; the remaining hours will be earned in a non-journalism area of study, which might include work in more than one department. Additional course work may be required if the student's area of interest changes or if performances in courses or comprehensive examination results indicate the need.

During the second semester of enrollment, each Ph.D. student will prepare a total program plan for the degree. The plan should include a list of courses and tools, with some explanation and justification for their selection in relation to academic goals. The plan will be discussed and modified, when appropriate, before approval. Once approved, the plan may be changed only with permission of the adviser. The student may deviate from the 2/3-1/3 pattern if the resulting program contains work leading to appropriate research or professional career goals.

Tool Requirements. Minimum course requirements listed above do not include courses taken to satisfy tool requirements. The Ph.D. student, in consultation with the adviser, will select two useful tools from among:

Journalism 500 and 501 (Research Design)

Journalism 530 and appropriate courses in the Department of History (Historical Research)

Guidance 506 and 507 (Statistics)

Journalism 540 and History 461a or 461b or Political Science 433a or 433b (Legal Research)

Computer Programming (Courses to be Selected)

Modern Foreign Language

Courses listed as tools are subject to change without notice at times when departments change course content, titles, or numbers. Only grades *A* or *B* are accepted for tool courses.

A student may propose other research tools for consideration by the School of Journalism, but such tools must be useful in the conduct of research, especially for the doctoral dissertation.

Examinations. Each student must pass rigorous comprehensive written and oral examinations after completing tool requirements and all course work (with all incomplete and deferred grades removed). The examination must be completed within one year after the student has satisfied all course and tool requirements. Failure to successfully complete the exams during the one-year period will result in dismissal from the program. The form and scope of the examinations are at the discretion of the graduate faculty members of the School of Journalism, with some basic parameters: each student will take a minimum of twenty hours of examination, including at least one methodology (appropriate to the student's proposed dissertation) and one area outside journalism and mass communication.

Students prepare dissertation proposals, defend and explain the proposals to their committees and complete the research and write their dissertations. Within one year after admission to candidacy, students must have written dissertation proposals approved by their committees. Dissertations must be based on scholarly research and independent thought.

Students must enroll for a minimum of 24 hours in Journalism 600. Each student must enroll in Journalism 600 each term between admission to candidacy and completion of all requirements for the Ph.D. degree.

Effective fall, 1980, graduate students who have completed their course work and the minimum number of credits required for thesis or dissertation must enroll in Journalism 601, Continuing Research, each semester until the completion of their degree programs. Students who will be making no demands on personnel or facilities can substitute graduate clerical registration. Determination as to the appropriate enrollment or registration is made by the journalism graduate faculty in consultation with the students involved.

The dissertation defense will be held before members of the dissertation

committee (all of whom must be present) and interested observers. Although others than committee members may ask questions of the student, the pass or fail decision on the oral will be made by committee members only.

Latin American Studies

The Master of Arts degree in Latin American studies is earned through an interdisciplinary program of courses offered in the Departments of Agricultural Education and Mechanization, Animal Industries, Anthropology, Botany, Economics, Foreign Languages and Literatures, Geography, History, Marketing, Philosophy, Plant and Soil Science, and Political Science. Southern Illinois University at Carbondale has a distinguished faculty of Latin Americanists and the Latin American holdings of the Morris Library are extensive. The program is supervised by the Latin American studies advisory committee.

Prerequisites for the master's degree include a basic knowledge of the Latin American area obtained through previous academic work, independent study, or personal experience in the region. Students also must demonstrate language skills (in Spanish, Portuguese, or both) appropriate to their career goals. The chairperson of the Latin American studies advisory committee will determine if the student has met these prerequisites and prescribe additional work to eliminate any deficiencies.

Requirements for the Master of Arts Degree

1. The completion of at least 20 hours in courses pertinent to the Latin American area offered for graduate credit in one of the departments listed above.
2. The completion of a minimum of 10 hours in complementary courses approved by the student's supervisory committee. To meet this requirement students may select offerings in a maximum of three fields.
3. The completion of a satisfactory thesis on a Latin American topic in the major department. Students will receive 3 to 6 hours of credit for the thesis. Three of these hours may count toward the 20 hour requirement in the major department.

In every case the student's final program must be approved by the supervisory committee, acting under the policies established by the Latin American studies advisory committee, in accordance with the rules of the Graduate School.

Linguistics

The goal of the Department of Linguistics is to bring students to an understanding of language systems which is both theoretical and practical. For students committed to the study of language, the department offers two M.A. programs. Students whose career goals are to enter the large and ever-increasing job market of teaching English as a foreign/second language, to help train other teachers, and to develop curricula and teaching materials are advised to pursue the Master of Arts degree in English as a foreign language. Students who wish a more extensive theoretical training, alone or in combination with marketable EFL skills, should consider the Master of Arts degree in linguistics. For students who are curious about language study, but not committed to either of our graduate majors, the department offers a number of interesting, non-specialist courses which may constitute a minor or a selection

of electives in related degree programs, such as speech pathology and audiology, psychology, English, foreign languages, speech communication, and anthropology.

Graduate courses in theoretical and applied linguistics are offered leading to the Master of Arts degree in linguistics or to the Master of Arts degree in English as a foreign language. Both 400- and 500-level courses are offered for a minor in linguistics, and in English as a foreign language. Applicants for admission should send inquiries to the chairperson, Department of Linguistics, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Admissions. Applicants for admission to either degree program, besides meeting the general conditions for admission to the Graduate School, must have an undergraduate GPA of at least 2.7 ($A = 4.0$). Applicants with GPA's between 2.4 and 2.7 may be granted conditional admission. (Students admitted on a conditional basis must earn a graduate GPA of 3.0 after the first 10 hours of letter-graded coursework taken in their program; failure to do so will result in the student's being dropped from the program.) In addition, applicants who are not native speakers of English must have a TOEFL score of at least 550. Applicants are encouraged to submit GRE scores in support of their application for admission. An undergraduate background or work experience in one of the following fields is desirable but not required: anthropology, English, foreign languages, mathematics, philosophy, psychology, speech, sociology.

All students entering either the M.A. in linguistics or M.A. in English as a foreign language programs must demonstrate a minimum level of knowledge of traditional English grammar. This is tested by a department diagnostic examination administered in the first week of the fall term. Students not able to pass the test will be required to take Linguistics 430 (traditional English grammar) and pass the course with a grade of *B* or better. The course yields three credit hours and may count toward a graduate degree in EFL or linguistics.

Applicants for admission who are not native-speakers of English must also demonstrate spoken and written proficiency in English, which is measured by department diagnostic examinations given upon the student's arrival. Students not able to pass these tests must take suitable remedial work provided for by the department. The master of arts degree will be awarded to non-native English speaking students only when they have demonstrated satisfactory proficiency in spoken and written English, in addition to meeting the other degree requirements.

Preprofessional Assignments. As a vital part of one's graduate educational experience each student must be engaged in an appropriate research or teaching assignment each term. These assignments vary according to the needs and professional goals of the student. They are designed to supplement the formal course work with a variety of preprofessional activities in research and teaching, under staff supervision.

The amount of time required of the student varies according to the progress made, the type of assignment, etc. The purpose of these assignments is to expose the student to some of the types of activities that will ultimately be engaged in after receiving the M.A. degree. Performance on these assignments is evaluated.

Retention. Students admitted on a conditional basis because of having a GPA between 2.4 and 2.7 must earn a graduate GPA of 3.0 after the first 10 hours of letter-graded course work taken in their programs; failure to do so will result in the student's being dropped from the program.

If, after one term on academic probation, as defined either by the Graduate School or herein, any students who fail to return to good standing, will not be entitled to financial assistance from the department. If, after two terms on academic probation, they fail to return to good standing, they will be dropped from the program.

When students accumulate three or more incompletes, they will be put on academic probation and will return to good standing by reducing the number of incompletes to two or less. While on academic probation the student is subject to the above stipulations for financial assistance and for being dropped from the program.

Comprehensive Examination. Toward the end of their course work, students must take and pass a written comprehensive examination covering the areas of their concentration. This examination may not be taken more than twice. In order to be eligible to take the examination, department students must have at least a 3.0 GPA when the examination is given, and must have passed the test of traditional English grammar. Students having a GPA just below 3.0 may petition the Department's executive committee to be considered for a special waiver of the requirement. However, petitioning the committee does not automatically result in a waiver.

Grade Point Average to Graduate. All graduate work must be completed with an overall GPA of 3.0.

Master of Arts Degree in Linguistics

Applicants for admission to the linguistics program must satisfy the following prerequisites: coursework corresponding to articulatory phonetics (402a) and general linguistics (401).

Applicants with partial deficiencies in these prerequisites may be provisionally admitted until the prerequisites are met. With regard to these prerequisite courses (which do not carry degree credit), the students who believe themselves capable in the material of any of these courses may ask that a proficiency examination be administered. Such an examination will be equal in scope to that usually given at the end of the course.

Candidates for the M.A. degree must have current proficiency in a language other than English; this may be native proficiency or the equivalent of the proficiency expected after three academic years of coursework. Such proficiency is demonstrated by obtaining at least a grade of *B* in the appropriate Foreign Languages 488b course or by obtaining a score of at least 500 on any option of the Graduate School Foreign Language Test given by the Educational Testing Service.

A thesis is required for the M.A. degree in linguistics. The student, in consultation with the departmental graduate adviser, shall propose a topic and a chairperson and two other faculty members to serve as the thesis committee; the executive committee of the department must approve the topic and structure of the thesis committee. The chairperson is to be a member of the graduate faculty of the Department of Linguistics. One or both of the other committee members may be from outside the department. The topic of the thesis may come from the major field of linguistics, or from the area of the student's minor, with the stipulation that the topic be demonstrably related to the major in linguistics. In the latter case, the thesis committee may be co-chaired by a faculty member outside the Department of Linguistics. In addition to the two copies required by the Graduate School and requested by committee members, the student must submit a copy of the thesis to the department.

The total credit requirement is a minimum of 32 credit hours; a minimum of

15 of these hours must be at the 500-level. Students are encouraged to attend the summer linguistic institute of the Linguistic Society of America; credit will be allowed for course work successfully completed.

Major Requirements.

The following 19 hours of linguistics:

Ling 405-4 Phonological Theory

Ling 408-4 Syntactic Theory

Ling 415-3 Sociolinguistics

Ling 506-4 Historical Linguistics

Ling 550-4 Seminar in Linguistics

Thesis Requirement.

Ling 599-3 to 6 Thesis

Minor Requirement.

Ten hours of courses relevant to linguistics.

A wide variety of courses which will interest the linguistics major is offered both within and outside the department. In consultation with an adviser, the student should structure a coherent minor. Possible areas are psycholinguistics, sociolinguistics, language and culture, language area studies, instrumental phonetics, language and literature/stylistics. If the student with a major in linguistics wishes to choose English as a foreign language as a coherent minor, the department requires the following:

Minor in English as a Foreign Language.

(for linguistics majors), 10 hours:

Ling 570-3 Theory and Methods of EFL/ESL

Ling 580-3 Seminar in Special problems of EFL/ESL

Ling 581-2 Practicum in EFL/ESL: Oral English

Ling 585-2 Practicum in EFL/ESL: Written English

If the student can demonstrate equivalent experience or academic credit for any of the above course requirements, other appropriate courses may be substituted to make up the total number of required hours.

Master of Arts Degree in English as a Foreign Language

Applicants for admission to the English as a foreign language program who are not native speakers of English must have an undergraduate concentration in English language or literature, or the equivalent in practical experience.

The EFL program at Southern Illinois University at Carbondale is uniquely different from many such programs in the way it blends theory and practical matters; it prepares the students intellectually as well as experientially, so that the student will be capable not only of conducting a class in English, but of making the decisions necessary for choosing among competing approaches, conflicting situations, and unforeseen activities. The methodology sequence of the EFL program is based upon the application of theoretical linguistics to EFL pedagogy. In addition, the EFL program provides for practice in control of gestures, tone of voice, and tempo of class management as practical aspects of pedagogy. Thus, graduates of this program are prepared to be teacher-trainers as well as classroom teachers.

As a vital part of the graduate training program in EFL, all students in that program are required to engage in practice teaching assignments through enrollment in Linguistics 581 (practicum in EFL/ESL: Oral English) and Linguistics 585 (practicum in EFL/ESL: Written English). Waivers may be given for comparable teaching experience of this specific type. These courses are

designed to enable the student to carry out practice teaching responsibilities in the Linguistics 100 (Oral English), Linguistics 101, 102, 103, 290 (composition for foreign students), classes in oral or written English at CESL, tutorial work in the English remedial workshop, (i.e. the writing clinic or developmental skills), or undergraduate grammar courses (i.e. GSD 104). The purpose of these practice courses and practice teaching assignments is to expose students to some of the types of teaching activities they will ultimately be engaged in after they receive their degrees.

The total credit hour requirement is a minimum of 32 credit hours. A minimum of 15 of these hours must be at the 500-level.

Required Courses.

(10 hours of EFL courses; 7 hours of Ling courses):

Ling 570-3 Theory and Methods of EFL/ESL

Ling 580-3 Seminar on Special Problems of EFL/ESL

Ling 581-2 Practicum in EFL/ESL: Oral English

Ling 585-2 Practicum in EFL/ESL: Written English

Ling 401-4 General Linguistics

Ling 402a-3 Articulatory Phonetics

Approved Electives.

(15 hours, at least 9 of which must be chosen from the following list):

Ling 571-2 Language Laboratories

Ling 572-2 Materials Preparation in EFL/ESL

Ling 501-3 Contrastive Linguistics

Ling 403-3 English Phonology

Ling 408-4 Syntactic Theory

Ling 415-3 Sociolinguistics

Ling 445-4 Psycholinguistics

Ling 575-2 EFL/ESL Testing

The additional 6 hours of electives may be chosen from the above list, from other linguistic department offerings, or, in consultation with the departmental graduate adviser, courses in other departments which may be related to the student's program and interests.

All EFL students who are native speakers of English must have the equivalent of one semester of study of a modern language (including exotic language) within the preceding five years, (excluding high school). This study may have been academic or direct experience (living in another country) with formal study (e.g. Peace Corps classes, FSI, Army language schools). In default of such background, the student must register for at least one semester of study of a modern language at SIUC. Enrollment in an undergraduate level course for credit or for audit satisfies the requirement. Foreign students in recognition of their experience in learning English, are exempted from this requirement.

A thesis is not required for the M.A. degree in English as a foreign language; however, such a candidate may optionally choose to write a thesis. In that case, the thesis policy and guidelines for the M.A. in linguistics apply. A research report is required in lieu of a thesis. The research report may have been prepared as a term paper for any advanced course, must have earned an A or B, must give evidence of the candidate's ability to do research reporting, and must be in acceptable form. In addition to the copy required by the Graduate School, the student must submit a copy to the department.

A certificate of attendance may be granted to those students who do not satisfy the graduation GPA requirement (3.0), the comprehensive examination requirement, the English language proficiency requirement, or the traditional English grammar proficiency requirement.

Mathematics

Graduate work in mathematics is offered leading to the Master of Science, Master of Arts, and Doctor of Philosophy degrees in mathematics and the Master of Science degree in statistics. A program may be developed for a teaching specialty in mathematics in the Master of Science in Education degree in secondary education or in higher education. Minor work for graduate degrees in other fields, which allow for a minor, is also offered. In addition to general rules, regulations, and requirements of the Graduate School, the following specific requirements pertain to the degrees available in mathematics.

Acceptance for graduate study in mathematics and subsequent continuation in the graduate program are at the discretion of the Department of Mathematics, provided that the student has been admitted to the Graduate School and meets the retention standards of the Graduate School. For unconditional acceptance the student will be expected to have taken a sufficient number of undergraduate courses in mathematics, including a course in linear algebra in preparation for the graduate program, as would be the case in a strong undergraduate major in mathematics or in a well chosen minor in mathematics with a major in a related discipline.

Students will also be expected to have completed a year of French, German, or Russian or to have a working knowledge of a computer programming language (such as is covered in Computer Science 202 and either 302 or 311). A student who does not fully meet these conditions may be admitted conditionally but will be expected to remedy any deficiencies in undergraduate preparation.

Master of Science Degree in Mathematics

1. Graduate credit must total at least 30 semester hours of which at least 15 must be at the 500 level. This will ordinarily be in courses offered by the Department of Mathematics unless an approved minor is taken outside the department; in this case at least 21 semester hours of graduate credit must be in courses offered by the Department of Mathematics. (One such approved minor in operations research-management science consists of courses BA 501, BA 541, BA 544.)
2. The candidate's program must include at least one course from each of four of the following areas: (i) pure and applied algebra; (ii) pure analysis; (iii) applied analysis; (iv) geometry and topology; (v) probability and statistics. This requirement may be met in whole or in part by means of courses taken elsewhere prior to acceptance for graduate study in the department; such courses must be judged comparable to corresponding 400 or 500 level courses offered by the department.
3. The student must demonstrate ability formally to communicate mathematical concepts either by preparing a research paper (3 hours credit in Math 595) or by successfully completing at least two semesters of the master's seminar, Math 550k (a total of 3 hours credit required), including the preparation of a research report based on a seminar presentation.
4. At the completion of the program, the student must demonstrate satisfactory performance on an oral examination based on course work and a research paper or report. The examination will be administered by a committee appointed by the chairperson of the department.

Master of Arts Degree in Mathematics

1. Graduate credit must total at least 30 semester hours of which at least 15

- must be at the 500 level. This will ordinarily be in courses offered by the Department of Mathematics.
2. The candidate's program must include at least one course from each of four of the following areas: (i) pure and applied algebra; (ii) pure analysis; (iii) applied analysis; (iv) geometry and topology; (v) probability and statistics. This requirement may be met in whole or in part by means of courses taken elsewhere prior to acceptance for graduate study in the department; such courses must be judged comparable to corresponding 400- or 500-level courses offered by the department. The candidate must take each of the courses (or have taken the equivalent elsewhere) Math 419, 421, 433 or 437, 452, and at least four mathematics courses at the 500 level.
 3. The candidate must demonstrate ability to read mathematical literature in French, German, or Russian. This requirement may be met in any of the following ways: (1) by passing an examination given by the Educational Testing Service of Princeton, New Jersey; (2) by passing an examination given by the foreign language examining committee of the mathematics department; (3) by passing with a grade of *B* or better, the *b* part of the research tool course (in the language elected) offered by the Department of Foreign Languages and Literatures.
 4. The candidate must write a thesis carrying 3 to 6 semester hours of credit in Math 599.
 5. The candidate must exhibit distinguished performance in course work, the thesis, and on an oral examination given at the completion of the program. The examination will be administered by a committee appointed by the chairperson of the department.

Master of Science Degree in Statistics

1. Graduate credit must total at least 30 semester hours of which at least 15 must be at the 500 level. This will consist of at least 21 semester hours offered by the Department of Mathematics and at least 6 semester hours in an approved minor area outside the department.
2. The candidate's program must include:
 - a. In mathematics: 452 or 501, and at least one course in applied analysis or topology.
 - b. In statistical theory: 480 and 580.
 - c. In statistical methods: 486 or 489, and at least one of the courses 473, 487, or 488. This requirement may be met in whole or in part by means of courses taken elsewhere prior to acceptance for graduate study in the department; such courses must be judged comparable to the corresponding 400 or 500 level courses offered by the department.
3. The student must demonstrate ability to formally communicate statistical concepts by preparing a research paper (3 hours of credit in Math 595).
4. If the student has not learned a computer programming language before entering the program, he will be required to either take a formal course such as CS 202 or pass a proficiency examination.
5. At the completion of the program, the student must demonstrate satisfactory performance on an oral examination based on his course work and research paper. The examination will be administered by a committee appointed by the chairperson of the department.

Doctor of Philosophy Degree

A student will be considered for acceptance into the Ph.D. program if above average performance in graduate work has been demonstrated comparable to that required for a master's degree at most American universities.

Once accepted, the requirements are:

1. Satisfactory performance on a comprehensive examination in three areas. At least two of the areas must be selected from those represented by Math 501, 520, 530, 555. The third area must cover material commensurate with that in a 500-level mathematics course other than 514, 515, or 516. However, with the approval of the graduate adviser, the student may substitute a 500-level course in a related field outside mathematics.
2. Demonstrated reading competence in mathematics in two of the three languages: French, German, Russian. One language may be replaced by passing, with at least a grade of *B*, either (a) Computer Science 202 and 204, (b) Computer Science 202 and 222, or (c) the equivalent. The language requirement may be met in any of the following ways: (1) by passing an examination given by the Educational Testing Service of Princeton, New Jersey; (2) by passing an examination given by the foreign language examining committee of the mathematics department; (3) by passing with a grade of *B* or better, the *b* part of the research tool course (in languages elected) offered by the Department of Foreign Languages and Literatures.
3. Completion during the first year in the program of any of the courses 501, 520, 530, 555 not previously taken at SIU at Carbondale or elsewhere at an equivalent level. Course work must include 12 hours in one field as a major concentration and 6 hours in each of two other fields (minors) from the following list: algebra; analysis; applied mathematics; differential equations; logic; number theory; probability and statistics; topology and geometry. The course work in the major and minor areas must be at the 500 level and be exclusive of the courses 501, 520, 530, 555.
4. Satisfactory performance on a preliminary written and oral examination on the student's major and minor areas. The written examination will be confined to the student's major area; the oral examination will cover both major and minor areas. The preliminary examination will ordinarily be taken after completion of the language (research tool) requirement and 24 hours of credit in the program. However, students should pass their preliminary examinations by the end of the academic year following that in which they passed their comprehensive examinations.
5. A dissertation (representing at least 24 hours of credit in Mathematics 600) demonstrating the candidate's capacity for original and independent research in the concentration chosen from the following list: algebra; analysis; applied mathematics; differential equations; probability and statistics; number theory; topology and geometry; numerical analysis; combinatorics. This list is subject to change due to changes in the graduate faculty. Candidates must pass an oral examination on their dissertation.

Microbiology

The Department of Microbiology offers graduate work leading to the Master of Arts and Doctor of Philosophy degrees in microbiology. The programs are designed to provide a basic knowledge of the field of microbiology as well as to allow each student to specialize in some particular area of study with the goal of developing microbiologists with a broad perspective and scientific sophistication who will advance human knowledge and meet the changing needs of society.

Admission and Advisement

Prospective graduate students must submit separate application forms obtainable from the Graduate School and the Department of Microbiology. Graduate

Record Examination (GRE) scores and three letters of recommendation are required as part of the departmental application.

Admission to the doctoral program in microbiology requires a master's degree, or its equivalent, a minimum grade point average in graduate work of 3.25, and approval by the department.

The departmental graduate adviser will assist each student with the initial planning of a program of study, including required courses, anticipated dates for fulfillment of specified requirements, etc. The adviser will also assist the student in arranging for a graduate faculty advisory committee and its chairperson to assume the continuing responsibility of planning the program of study and directing the research project for the degree.

Master's Degree

Each candidate for the master's degree is required to complete 30 semester hours of acceptable graduate credit, an approved thesis, and pass a comprehensive examination. Most students require two years to complete the work for a master's degree.

At least 15 of the 30 semester hours must be in courses numbered 500 or above. Within the 15 semester hours of 500 level credit, each student must successfully complete 10 semester hours of credit selected from departmental courses numbered 502, 504, 505, 540, 542, 551, 562, 564, taken once.

The remaining credit hours requirements may be elected from the 400- and 500- level courses in the department or *other* departments with the approval of the graduate adviser. Additional credits may be earned in courses 504 and 505 provided that they are repeated with different instructors.

During each semester, every graduate student is expected to register for Microbiology 500 (Seminar) either for credit or audit.

Copies of the draft thesis must be submitted to the advisory committee and the department chairperson at least six (6) weeks before commencement. Each candidate for a master's degree is required to pass a comprehensive final examination administered by the advisory committee. The approved thesis, in final form, must be submitted to the dean of the Graduate School at least three (3) weeks before commencement.

Doctoral Degree

Each prospective candidate for the doctorate is required to complete 96 semester hours of acceptable graduate credit including 24 hours of dissertation credit, satisfy the statistics requirement, pass the qualifying examination, write and defend an acceptable dissertation based on a laboratory research problem, and spend at least two consecutive semesters in residence after admission to the doctoral program and before admission to candidacy.

All students will be expected to complete a core of courses consisting of 403-2, 425a,b-4, 441-3, 451-3, 460-3, or their equivalent. All students will be expected to complete at least three of the following five courses: 404-2, 426a-2, 442-2, 452-2, and 461-3 or their equivalent.

The remaining credit hour requirements may be elected from the 400- and 500- level courses in the department or other departments with the approval of the advisory committee.

During each semester, every graduate student is expected to register for Microbiology 500 (Seminar) for credit or audit.

Students may petition the department to accept credit earned in the master's program toward the credit requirements of the doctoral program.

The microbiology department requires that all students enrolled in the doctoral program present evidence of competence in statistics by earning a

grade average of *B* in a series of courses or by passing a proficiency examination (administered by the course instructor) equivalent to one of the series of courses as follows:

1. Guidance 506 and 507
2. Mathematics 483 and 487
3. Mathematics 514 and 515

Students must satisfy the statistics requirements before taking the qualifying examination. After passing the qualifying examination, the student is advanced to candidacy for the doctorate.

The qualifying examination will consist of the three parts which are indicated below.

1. General Microbiology. This examination will be constructed and graded by the entire faculty.
2. Area of Concentration. The nature of this area, either a departmental or interdisciplinary speciality, shall be determined by the student together with the advisory committee and the chairperson. The examination shall be prepared and graded by the chairperson of the advisory committee.
3. Outside Area. The nature of this area, involving one or more departments or areas outside of the department shall be determined by the student, together with the advisory committee and the chairperson. The examination shall be prepared and graded by a faculty member outside of the department.

In order to pass the qualifying examination, students must satisfy every member of the examining committee. If they fail to do so, they will fall in one of three categories. (1) They may fail and be denied a re-examination. (2) They may fail and be given an opportunity to be re-examined after an interval of time agreed upon by the students and the chairpersons of the committees. (3) They may be required to repeat a part of the examination. This re-examination will be conducted by the member(s) dissenting from passing the student initially.

Students working towards the doctoral degree should consider the following steps applicable to the dissertation:

1. The student and the chairperson of the advisory committee determine the general nature of the research problem.
2. After formulation, the problem should be discussed with the advisory committee before extensive work is done. A discussion of the problem may be presented in a departmental seminar.
3. Periodic meetings of the student with the advisory committee are encouraged.
4. Copies of the draft dissertation should be available to the advisory committee at least *two months* prior to the deadline established by the Graduate School. The dissertation must be defended by the student in a public oral examination. The approved completed dissertation is transmitted to the dean of the Graduate School.

Mining (Coal Extraction and Utilization) Engineering

Department of Mining Engineering

The mining engineering department at SIUC is a young and upcoming department in the College of Engineering and Technology. The department presently offers a four-year Bachelor of Science degree in engineering with an option in mining engineering and a graduate program leading to a Master of

Science degree (coal extraction and utilization) in mining engineering. The current enrollments in the two programs are 40 and 12, with considerable increases in undergraduate enrollment expected in the future. Undergraduate enrollments should level off at about 120-150 students.

Current research in the department emphasizes four areas: rock mechanics and strata control, mine planning and design in surface and underground coal mines, mine ventilation, and coal preparation. Ongoing and completed projects in these areas include pre-mining investigations to delineate ground instability problems in advance of mining, effects of moisture absorption and swelling on strata stability in coal mines, the effect of moisture on anchorage capacity of roof bolts, development of pin-set bolting concept, remote control of backfilling in abandoned room-and-pillar mines, industrial engineering studies of mined land reclamation, integrated mining and reclamation concepts, production potential of novel underground mining systems, model studies of air flow in multiple entries, removal of pyritic sulfur from coal using flotation, and recovery of coal from refuse and slurry ponds.

The department is equipped with modern laboratories in the areas of rock mechanics, coal preparation, and mine ventilation and provides excellent opportunities for research.

The University Coal Extraction and Utilization Research Center is located on campus and assists researchers in developing research funding sources. In addition, the Carbondale Mining Technology Center of the U.S. Department of Energy is located about 10 miles away from campus and provides strong interaction possibilities. Many of the faculty members currently have research support from this DOE center. Excellent opportunities exist for graduate students to work at the center during summers.

A graduate program leading to a Master of Science degree in mining (coal extraction and utilization) engineering is available in the Department of Mining Engineering Technology for students who are interested in coal extraction and utilization. The program is administered academically by a program committee. Course offerings and research activities include:

Coal Extraction—mine ventilation and environment control, mine extraction systems, strata control and rock mechanics, mine management, design of mine machinery

Coal Utilization—coal preparation processes, coal conversion and combustion processes

Environmental Effects—mine-waste management, emission control engineering, waste-heat management, mining and the environment

Basic Science Related to Coal Mining—coal geology, hydrology, coal chemistry

Admission

Students seeking admission to the graduate program in mining engineering must meet the admission standards set by the Graduate School. In addition, a bachelor's degree in engineering or its equivalent is required for admission into the program. A student whose undergraduate training is deficient may be required by the program committee to make up coursework without graduate credit.

Requirements

A graduate student in mining engineering is required to develop a program of study with a graduate adviser and establish a graduate committee of at least three members at the earliest possible date. The graduate committee must be approved by the mining engineering program committee. For a student who wishes to complete the requirements of the master's degree with a thesis, a

minimum of thirty semester hours of acceptable graduate credit is required. Of this total, eighteen semester hours must be earned in the mining engineering major. Each candidate is also required to pass a comprehensive examination covering all of the student's graduate work including thesis.

If a student prefers the non-thesis option, a minimum of thirty-six semester hours of acceptable graduate credit is required. The student is expected to take at least twenty-one semester hours in the mining engineering major including no more than three semester hours of the appropriate Mining Engineering 592 course to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination. The graduate committee of a student who is in the non-thesis option will:

1. Approve the student's program of study,
2. Approve the student's research paper topic,
3. Approve the completed research paper,
4. Administer and approve the written comprehensive examination.

Graduate students in mining engineering are required to take one term of internship in coal industries, research institutes, or governmental agencies for practical experience during the early stages of their advanced study. For this activity, the student will earn appropriate credits (up to 3 semester hours) as determined by the instructor.

Every student is required to enroll in the course MNGE 550 for one term and to submit a term paper describing the work conducted and knowledge gained during the internship period.

Assistantships and fellowships are available for qualified applicants. Additional information about programs, courses, assistantships, and fellowships may be obtained from the Department of Mining Engineering.

Molecular Science

Molecular science is an interdisciplinary Ph.D. program designed to provide advanced education for those students who desire to pursue scientific careers which require understanding at the molecular level. The program draws its faculty from departments in the College of Science, the College of Engineering and Technology, the College of Liberal Arts, and the School of Medicine. This faculty offers a variety of interdisciplinary areas of research. Examples of such areas are molecular biology, biophysics, geophysics, geochemistry, coal science, chemical physics, catalysis, engineering science, and applied mathematics.

Students may enter the program with a master's degree from diverse educational backgrounds including the physical sciences, engineering, the life sciences, and mathematics. During the initial phase of study it is expected that most students will take some undergraduate courses in the areas of mathematics, physics, chemistry, and biology to expand their basic knowledge to the required breadth. Then in their second phase of study, each student will take three preliminary examinations in the graduate breadth areas of their choice. Additionally, a written examination will be required for each student in their own specialty area, and this will be followed by an oral examination which will include the three breadth areas as well as the specialty area. Passing these preliminary examinations and a research tool requirement qualify a student for admission for candidacy.

In their third and final phase, candidates for the Ph.D. must complete their research, write their dissertation, and pass an open oral examination on their dissertation work.

Because students enter the program from different backgrounds, it is difficult to predict the time required for each student to complete each phase. In practice

the phases overlap. Phases one and two occur in the first year with phase two continuing through the second year. Research usually starts during the second year. A well prepared student might complete the program in three years; however, four years is a reasonable average time to expect most students to complete the program.

Admission to Graduate Study

Admission to the Ph.D. program in molecular science requires a master's degree or its equivalent in the physical sciences, life sciences, mathematics, or engineering. In addition, the student must have a grade point average of at least 3.25 in graduate courses.

Students holding the baccalaureate degree in the above listed fields are admissible to graduate study in preparation for subsequent admission to the molecular science program. They may join the program after either obtaining a master's degree or its equivalent. Application for master's equivalency requires (a) completion of 30 semester hours of acceptable graduate credit, at least 15 hours of which must be courses numbered 500 or above, and (b) completion of an approved research paper which demonstrates evidence of the student's knowledge of research techniques, and which is based on a special research project. In addition to the other subject matter they may have studied, students must have the background listing below (SIUC equivalency courses are listed in parentheses):

Mathematics—through differential equations (Math 150, 250, and 305).

Chemistry—freshman chemistry, one semester of organic chemistry, and one semester of either physical chemistry or the third semester of university physics (Chem 222AB-8, or 224-5 and 225-2 plus 340-4 and either 460-3, or Physics 205C-3).

Physics—two semesters of sophomore level physics and either the third semester of university physics or physical chemistry (Physics 203AB-6, or 205AB-6 plus 205C-3, or Chem 460-3).

Biology—a minimum of two semesters beyond General Studies biology (either two courses chosen from Botany 335, Chemistry 352, Microbiology 301, Microbiology 302, Psychology 312, and Zoology 309 or three courses from Biological Sciences 305, 306, 307, 308, 309, and Physiology 210).

Since the program in molecular science is interdisciplinary and broadly based, it is anticipated that many students entering the program will not have the breadth indicated above. This breadth may be attained by taking the regularly offered courses listed in parentheses. The program chairman will determine course equivalencies between SIUC and other schools.

Retention in the Program

After completion of phase one, the performance of each student will be evaluated by the executive committee. The executive committee will make a decision on the continuation in the program for each student. Affirmative action by the committee certifies the student to be qualified to undertake further study in molecular science.

Admission to Candidacy for Ph.D.

After satisfying the breadth requirements and completing the research tool requirement, the student may seek admission to candidacy for the Ph.D. degree in molecular science. This may be accomplished by passing three preliminary breadth examinations from the following list and by passing a fourth preliminary specialty examination in the student's specialty area. The nature of these examinations is described in the following paragraphs.

The student will choose three breadth areas from the following list of eight

broad preliminary examination areas. Each of these breadth areas is described by graduate courses. The student may pass each breadth area in two ways: (1) by passing two or more the designated courses with a grade average of at least 3.5, or (2) by passing a comprehensive written examination in the breadth area.

Breadth Areas.

Quantum Theory and Molecular Spectroscopy.

Statistical Mechanics and Thermodynamics.

Engineering Sciences I: Electrical Sciences and Systems or Fluid and Solid Sciences.

Engineering Sciences II: Transfer Processes or Material Sciences.

Applied Mathematics.

Biochemistry or Organic Chemistry.

Biophysics.

Molecular Biology.

The chairman of the molecular science program will appoint faculty members to design, administer, and evaluate the preliminary examinations in the breadth areas.

The student and the student's dissertation adviser will designate a specialty area. The preliminary examination in this specialty area will be written and will be followed by an oral examination which will also include the three breadth areas. The written examination will be composed under the direction of the student's dissertation adviser. The oral examination will be conducted by the student's committee. The purpose of this last oral examination is to establish that the student is, in fact, a Ph.D. candidate.

Failure by the student to pass any preliminary examination will lead to a review of the student's status by the executive committee and the student's committee. They may decide (1) to allow the student to retake only the failed examinations, (2) to require the student to retake both the failed examinations as well as the examinations in which the student demonstrates weakness to the extent that the performance was considered border line pass, or (3) to terminate the student. In any case, no student will be allowed more than two tries at passing any one preliminary examination in any area. Additionally, permission to choose a different area after failure in one must be approved by both the executive committee and the student's committee. Such permission may be approved only once.

The research tool requirement is satisfied either by passing the ETS examination in French, German, or Russian by demonstrating competence in computer programming.

Requirements for the Ph.D. in Molecular Science. A candidate for the Ph.D. degree must meet the general requirements as set forth by the Graduate School.

Advisement Procedures

The program chairman will serve as graduate adviser for the program. Each student is expected to consult the chairman in planning the initial part of the graduate program in developing a course of study in preparation for the preliminary examination. The student must also request approval for a dissertation adviser no later than three semesters after being admitted to the program. The dissertation adviser will recommend a Ph.D. committee which the program chairman will submit for approval by the dean of the Graduate School. The student's committee will work out with the student and monitor a scheduled program for completion of the Ph.D. degree.

Music

The School of Music faculty numbers thirty-four full-time positions. Within its ranks are to be found many outstanding performers and educators, representing a broad diversification of background and talent. Faculty members present many solo and small ensemble performances, as well as clinics and workshops, during the school year. Fourteen members of the faculty hold doctorates.

Library Facilities

In addition to Morris Library, the School of Music has its own recording and score library, including modern stereo listening facilities, cassettes, and cassette decks for self-instruction in ear training and music literature, some 1600 LP recordings and tapes, over 1100 scores, many in multiple copies, and 94 books and reference works. The self-instruction center in Morris Library provides tape recordings of theory and literature for student use as well as access to the PLATO computer system.

Musical Organizations

A wide variety of performing opportunities are available, including the University Symphony, strings and laboratory orchestras, symphonic band, wind ensemble, jazz ensemble, Marching Salukis, brass ensemble, percussion ensemble, University Chorus, Collegium Musicum, Male Glee Club, Women's Choral Ensemble, University Choir and Chorale. The Opera Workshop presents one full opera production each year in addition to several programs of operatic excerpts. The Summer Music Theater presents two full-scale musicals during the summer session.

Musical Performances

Some 130 School of Music programs a year are presented, plus Southern Illinois Concert Series and Celebrity Series appearances by well-known concert artists. A program booklet for further details concerning concert activity is available through the School of Music.

Other Resources

A studio for electronic music makes possible exploration in electronic composition. A new fifty-eight rank Reuter pipe organ, the principal instrument for recitals and teaching, has recently been installed in Shryock Auditorium. Available for practicing are a six-rank Moeller Double Artiste, a four-rank Wicks, and an electronic organ. Eighty-five pianos, including twenty-two in practice rooms, an eighteen-unit electronic piano lab, and a full complement of band and orchestral instruments are available.

Graduate Assistantship and Fellowship Applications

Any student seeking a master's degree may apply to the coordinator of graduate studies in music for a graduate assistantship. An undergraduate overall grade-point average of 2.8 (A = 4 points) is required for consideration. The assignment of assistantships, for those who are eligible, is based upon School of Music needs and student qualifications. A student with an overall grade-point average of 3.5 or better is eligible to apply for a graduate fellowship involving no School of Music assignment.

The School of Music offers programs leading to the Master of Music degree and to the Master of Music Education degree. Each master's degree requires a minimum total of 30 credits, with a minimum total of 15 credits at the 500

level. Students enrolled in a program leading to a Ph.D. degree in education, with a concentration in secondary education, may choose the elective portion of their programs from graduate courses offered in the School of Music.

Master of Music Degree Standard Curricula

HISTORY-LITERATURE

Majors complete Music 501-3; 502-4 (2,2); 2 credits in 414 or other performing ensembles; 6 credits selected from 475, 476, 477, 573, 574, or 578; 599-6; 6 credits in music history-literature electives; 3 elective credits in non-music history-literature courses.

THEORY-COMPOSITION

Majors complete Music 501-3; 502-4 (2,2); 545-3; 3 credits from the 470 or 570 series; 480-4 (580-4 must be completed by composition majors); 2 credits selected from 566, 414, 567, or 568; 599-6; 5 credits of approved music electives in theory-composition, history-literature, conducting, or performance.

PERFORMANCE

Majors complete Music 501-3; 502a or b (2); 5 credits from 461, 482, or 470-570 series; 8 credits in 540 (440 if specializing in pedagogy); 2 credits from 566, 414, 567, or 568 (or other electives if keyboard major); 6 credits in 595 and 598 (recital and document); 4 credits in non-performing music elective. If specializing in conducting, majors must complete Music 501-3; 502-4 (2,2); 556-4 (2,2); 3-6 credits from the 470-570 series; 2-4 credits in 440; 2-3 credits from 566, 414, 567, or 568; 6 credits in 595 and 598 (recital and document); 3 credits in music electives.

OPERA/MUSIC THEATER

Opera and music theater majors must have an undergraduate degree in music with appropriate experience in opera or music theater, or in theater with additional music study sufficient to qualify in performance, theory, and history of music. Majors complete Music 468-2; 4 credits from 567 or 568; 12 credits selected from 440-540, 461, 501, 570, 556, 567, 568; six credits selected from Theater 402a, b; or 404; 409; 412, 415, 417; 432; 505; and six credits from Music 499 and 595; or 598 and 595; or 599.

Master of Music Education Degree Standard Curriculum

Majors complete Music 503-3 (or 501-3); 502a or b (2); 4-5 credits from 509, 550, or 460; 7-8 credits selected from music education courses; 2 credits from 566, 414, 567, or 568; 5 credits selected from non-music education courses including at least one course from 410, 482, or the 470-570 series; 599-6 or six credits from 499 and 595; or 595 and 598; or from approved electives in music or related fields.

General Information

Fees. Fees are not charged for individual instruction, practice rooms, or instrument lockers. Instruments are loaned without charge when needed. Student expenses for music, textbooks, and other incidental supplies usually range from \$30 to \$60 per term.

Advisement. After initial advisement by the graduate coordinator in music, each entering student will be assigned a faculty adviser. The adviser for a student with a performance major will normally be the student's instructor in performance. Assignments of advisers in music theory, education, and history literature will be made on a rotational basis from faculty in those areas, unless

otherwise requested by the student. The faculty adviser supervises the overall planning of the student's program and consults with the student and the graduate coordinator in regard to the eventual designation of a document or thesis director.

Diagnostic tests in music theory and history are given during orientation at the beginning of the fall semester and must be taken by all students at the first opportunity after admission. The student with weaknesses in certain areas may be asked to take specialized work in those areas. A student will be accepted as a performance major in the Master of Music degree program after satisfactory audition in person, either before admission or during orientation. A performance major may be conditionally accepted on the basis of a tape recording; but a student accepted conditionally may be asked to audition in person during orientation or during the first term of residence, and may be required to register at the 400 level in performance until approved by personal audition. Current brochures from various performance areas and the *Graduate Handbook in Music* describe the level of repertory expected, audition procedures, and diagnostic tests.

Exceptions to Degree Requirements. Appropriate substitutions in or for the curricula for either the Master of Music degree or the Master of Music Education degree may be made if recommended by the student's adviser and approved by the graduate committee in music. Students who expect to earn more than half of their credits during summer terms only, or by a combination of summer attendance and night classes, may similarly propose a specialized sequence of course offerings, following the above curricular patterns as far as possible. All specialized curricula must meet Graduate School requirements and be approved by the graduate committee in music. Special summer students changing plans and registering for more than one regular fall or spring semester will ordinarily follow the appropriate standard curriculum.

The Thesis, Document, and Research Paper. All Master's degree candidates will complete either (1) a thesis, or (2) a large, original composition and document, or (3) a full recital performance and document, or (4) courses which involve research papers or creative projects demonstrating professional abilities equivalent to the above.

No later than the beginning of the semester preceding the semester in which the student expects to graduate, the graduate coordinator—in consultation with the student and the student's adviser—will designate a document or thesis director from the current list of graduate faculty serving in that capacity. Exceptions to this procedure must be approved by the music graduate committee. The document or thesis director guides the student's choice of topic and is responsible for the progress and quality of the resulting work. The document director normally heads the student's orals committee. Before extensive work is done on the thesis or document, the student submits a proposal, together with a selective bibliography where applicable and the reactions of the document or thesis director, to the coordinator of graduate studies in music for approval by the graduate committee. Changes of topic or of document director after initial approval must be approved by the music graduate committee.

Graduate Recital (598-4) is supervised by a jury of at least three members, headed by the student's instructor in performance or adviser. This jury approves the level of literature to be performed and the quality of performance by audition in advance of the final performance, the acceptability of which must also be judged by the performance jury.

Although the Master of Music Education degree does not require a thesis or document, the student may elect to write one and enroll in Music 599 or 595.

Students working toward the Master of Music Education degree who do not elect to write a thesis or document must complete six hours of course work including research terminating with a paper or papers following thesis style. These research papers are filed with the graduate coordinator for music.

Three copies of all theses, thesis-composition manuscripts and tapes, documents, and research papers must be submitted in final form to the music graduate office at least five weeks before the intended date of graduation, carrying the approval of the document or thesis director, when applicable. The coordinator of graduate studies will forward two copies to the Graduate School and retain one copy. Guidelines for preparing theses and documents are available from the Graduate School and the music graduate office.

Comprehensive Examinations. During the final semester of study, the student will take comprehensive examinations, written and oral, dealing with general areas of music and concentrations of music study, and when appropriate with the student's thesis or document. Application to take comprehensive examinations must be made not later than five weeks before the expected date of graduation, and the examinations must be passed no later than three weeks before graduation. Application for comprehensive examinations may not be made until all other requirements, with the exception of terminal-semester courses, for the degree have been satisfied. A failed section of the comprehensive examinations may be taken again in a following term.

The oral examination committee, appointed by the coordinator of graduate studies in music, is headed by the student's document or thesis director, with two or more faculty members representing the student's areas of concentration to assist, as requested by the student. If the student has scheduled six or more hours in a department other than music, a member of this department will be invited to serve on the examining committee. The examination committee will conduct the student's oral examination and may supply questions for the student's written examination under the general supervision of the music graduate committee.

Occupational Education

(See Vocational Education Studies for program description.)

Philosophy

The Department of Philosophy offers a wide range of advanced courses in the major areas within the field leading to the M.A. and Ph.D. degrees. Students are offered a diversified curriculum not dominated by one school of thought or method of approach. The broad range of specializations represented by the faculty exposes students to a variety of aspects of philosophy and at the same time permits them to concentrate on their own particular area of interest. Graduate-level courses in such allied fields as the natural and social sciences, the arts, linguistics, and law offer supplements to the philosophy curriculum.

An important part of the graduate program is a philosophy colloquium in which faculty and students participate. Distinguished visiting philosophers from this country and abroad present lectures to this colloquium throughout the academic year. The graduate students have their own philosophy club which meets for papers and discussion on alternate weeks. They also edit and publish *Kinesis*, a graduate journal in philosophy.

Associated with the department are the Center for Dewey Studies, which is

preparing and publishing the definitive edition of the collected works of John Dewey, and The Library of Living Philosophers, edited by Paul Schilpp. The University library provides excellent research facilities with 1.8 million volumes, an extensive collection of philosophical journals, and important archives in American philosophy, including the Open Court papers, and the papers of John Dewey, J. H. Tufts, Stephen C. Pepper, Edward Scribner Ames, Henry N. Wieman, and Herbert Schneider.

The Department of Philosophy offers graduate work leading to the Master of Arts and Doctor of Philosophy degrees. Graduate courses in philosophy may be used also as a minor in programs leading to the Master of Arts or Master of Science in Education degrees. Students who do not plan to continue work in philosophy beyond the master's degree level are encouraged to elect a graduate minor or to combine philosophy with another subject in a 40-hour double major.

All graduate students in philosophy are expected to have some supervised experience in teaching basic work in the field, either through regular teaching assistantships or through special assignments. Opportunities for intern experience at area junior or community colleges are made available.

Admission

Admission to the philosophy graduate program requires the following:

1. An application form to be sent to the Graduate School.
2. An official transcript of each school attended to be sent to the Graduate School.
3. A sample of written work, e.g. a term paper written for an undergraduate philosophy class, to be sent to the department's director of graduate studies.
4. Three letters of recommendation from individuals familiar with the student's work should be requested by the applicant to be sent to the department's director of graduate studies.
5. Scores for the Graduate Record Examination verbal and quantitative aptitude tests are to be submitted by applicants to the department. Doctoral applicants should also submit scores on the GRE advanced test in philosophy. The department may, where other evidence of competence seems so to warrant, accept candidates on the condition that acceptable scores are later submitted.

The department expects an applicant for admission to its graduate program to have had at least 15 semester hours work in philosophy or closely related theoretical subjects, including at least one semester in ethics, one in logic, and a year in the history of philosophy. The department may waive a portion of this requirement in favor of maturity and of quality of breadth of academic experience. The applicant will be required to make up serious background deficiencies by taking appropriate undergraduate philosophy courses without credit.

Applications for fellowships and special doctoral assistantships should be sent to the department by February 1 of the academic year preceding that for which application is made. Applications for departmental graduate assistantships should be sent to the department by April 1 of that year.

Master of Arts Degree

The department's M.A. degree program is designed both for students wishing to continue on for a Ph.D. degree within a pre-doctoral program and those who plan to receive a terminal master's degree. For the latter students the department offers increased opportunities for electives in the field of education or in subjects related to philosophy.

Pre-Doctoral Program. In order to receive an M.A. degree within a program leading to the Ph.D. degree the student must fulfill the following requirements:

1. Complete 30 semester hours of course work in philosophy or allied fields, 6 of which may be credited toward preparation of a thesis.
2. Demonstrate competence in formal logic during the first year of residence either through appropriate course work or by passing with a grade of *B* or better an examination equivalent to the Philosophy 320 final suitably supplemented with additional materials on Aristotelian logic.
3. Pass an M.A. comprehensive examination on the history of philosophy to be taken no later than in the fall semester of the student's second year of graduate work.
4. Demonstrate reading knowledge of one foreign language, usually French or German, by passing a proficiency examination in that language or by passing the appropriate 488b foreign language course with a grade of *B* or better.
5. Fulfill a research writing requirement by either: a) writing an M.A. thesis of approximately 50 pages; or b) submitting three edited research papers written in conjunction with graduate seminars. This requirement should normally be met no later than one's second year of residence. The candidate for the M.A. degree will take an oral examination conducted by a three-member faculty committee on the research subject.

Teaching Master's Program. In order to receive an M.A. degree within a program designed to prepare students for two-year college teaching the student must:

1. Complete 30 semester hours of course work, 9 of which may be taken outside the field of philosophy in either the Department of Higher Education or in fields related to philosophy approved by the department's director of graduate studies.
2. Demonstrate competence in formal logic as in 2 above.
3. Pass the department's M.A. comprehensive examination on the history of philosophy as in 3 above.
4. Fulfill the department's research writing requirement described in 5 above.

Students within this program are not required to demonstrate reading knowledge of a foreign language.

Doctor of Philosophy Degree

The Ph.D. degree in philosophy is designed to prepare students for college teaching and for research in their field of study. To enter the doctoral program leading to this degree the student must have received an M.A. degree in philosophy at either Southern Illinois University at Carbondale or some other institution.

In order to receive the Ph.D. degree the student must fulfill the following requirements:

1. Complete 30 semester hours of course work in philosophy or allied fields beyond the M.A. degree.
2. Demonstrate competence in formal logic during the first year of residence as required for the M.A. degree.
3. Demonstrate a background in the history of philosophy by passing the department's M.A. comprehensive examination on the history of philosophy. Incoming doctoral students will be expected to take this examination prior to taking the preliminary examination.
4. Fulfill a research tool requirement in one of the following ways: a) demonstrating a reading knowledge of two foreign languages by proficiency ex-

amination or by passing the appropriate 488b language courses with grades of *B* or better; b) showing an appropriately higher proficiency in one language; or c) demonstrating a reading knowledge of one foreign language and completing satisfactorily at least two courses at the graduate level in an outside area approved by the director of graduate studies. These courses do not count toward the fulfillment of 1 above.

5. Pass a written preliminary examination on the following four areas: metaphysics; epistemology and philosophy of science; value studies (ethics, social philosophy, and aesthetics); and an area of historical specialization. This examination will normally be taken only after the student has accumulated at least 24 hours of credit beyond the M.A. degree.
6. Write a doctoral dissertation under the supervision of a faculty dissertation committee. This dissertation is started only after the student has completed 30 hours of work beyond the M.A. degree and has been admitted to candidacy for the Ph.D. degree. After the dissertation has been accepted by the candidate's committee, the student is given an oral examination on the dissertation and related topics. Should a student fail to complete the dissertation within five years after admittance to candidacy, the student must take an oral examination (usually administered by the internal members of the dissertation committee) to be admitted to candidacy a second time.

Physical Education

Graduate courses in physical education are offered toward the Master of Science in Education degree in physical education or toward a concentration for the Doctor of Philosophy degree in education. In addition, students may elect courses in physical education to complete requirements for a minor when their program of study allows for a minor.

The minimum number of hours required in physical education at the master's level is 24. The total number of hours required for the master's degree is a minimum of 30 semester hours.

Master's Degree

The departmental requirements for unconditional admission as a master's degree candidate are:

1. Fulfillment of the requirements for admission to the Graduate School.
2. Presentation of an undergraduate course in kinesiology physiology of exercise, human anatomy, motor learning, measurement and evaluation and at least one in educational psychology or psychology of the particular field of the student's specialty.

A student may be conditionally admitted to the program and may be permitted to do graduate course work while removing deficiencies.

Requests for transfer of credits from other institutions will be considered by the department only before the completion of the first term of enrollment.

Requirements

The following required courses common to all concentrations are PE 500, 503, and either 592 or 599. The courses are designed to provide common experiences to all students regardless of their specialization. For 599 two bound copies are deposited with the department. Two unbound copies are deposited with the Graduate School.

Ph.D. Program

A Doctor of Philosophy degree in education with a concentration in physical

education is offered. This program is based on the policies of the Graduate School and the College of Education.

Physics and Astronomy

The Department of Physics and Astronomy offers graduate work leading to the Master of Arts and Master of Science degrees in physics. Graduate courses in physics may also be taken to satisfy teaching specialty requirements for the Master of Science in Education degree in secondary education or in higher education.

In addition to the general requirements of the Graduate School, the student must complete Physics 500 (or mathematics equivalent), Physics 510, and Physics 520A. Other specific requirements for the master's degrees are as follows:

Master of Arts

This program is designed primarily for those planning to enter a Ph.D. program. A reading knowledge is required in French, German, or Russian as demonstrated by passing one of the Educational Testing Service's graduate foreign language examinations administered by the testing center of the University's Career Planning and Placement Center or by passing Foreign Language 488b with a grade of *A* or *B*.

The M.A. degree in physics will be granted on the basis of a research paper and 30 semester hours of course work, of which 22 semester hours must be at the 500 level. Each candidate for the M.A. degree is required to earn one credit in Physics 581 by lecturing in the graduate seminar and is required to pass an examination, written or oral or both, covering graduate work including the research paper. This examination is given by the student's advisory committee.

Master of Science

This program is specifically designed for those who wish a professional degree and do not plan to continue beyond the master's level. A reading knowledge of a foreign language or demonstrated competence of computer skill is required. This requirement can be met by passing one of the Educational Testing Service's graduate foreign language examinations for the language option, or by passing Foreign Language 488b with a grade of *A* or *B*, or a similar examination for testing computer skill. English can be substituted for either of the above requirements at the discretion of the graduate adviser provided it is not the native language of the candidate.

A thesis is required, based upon not more than six nor less than three semester hours of 599-level credit. The 599 credit requirement is in addition to the minimum of 15-hour requirement at the 500 level as stated in this catalog and should be distributed preferably over several terms of enrollment. Each candidate for an M.S. degree is required to earn one credit in Physics 581 by lecturing in the graduate seminar and is required to pass an examination, written or oral or both, covering graduate work including the thesis. This examination is given by the student's advisory committee.

Physiology

Graduate courses in physiology may be taken leading to the Master of Science or the Doctor of Philosophy degrees in physiology. Graduate courses in physiology may also contribute to a program leading to a Master of Science

degree in biological sciences or to a teaching specialty for the Master of Science in Education degree in secondary education or in higher education.

The Department of Physiology offers advanced training in mammalian physiology, cellular and comparative physiology, endocrinology and pharmacology, biophysics, and human anatomy. Students entering the graduate training program are advised to plan the course work so as to acquire a broad knowledge of the field before concentrating in one of these sub-disciplines. The advisory system in the department is set up to help students in planning their work. All graduate training programs in the department are subject to approval of the graduate training committee of the department.

Each term the student must be engaged in a training assignment which supplements formal course work and will consist of research or teaching or both. The student is required to have participated in both types of activities, research and teaching, as a graduate student at SIUC as a condition for receiving a graduate degree.

Prerequisites for graduate training with a major in physiology usually include the equivalent of an undergraduate major in one of the biological sciences, plus inorganic and organic chemistry and a minimum of one year each of physics and mathematics. Students with undergraduate training in related areas, such as chemistry, physics, mathematics, computer science, psychology, or engineering are strongly encouraged to consider graduate work in physiology; deficiencies in the requirements listed above can be made up early in graduate training.

Master's Degree

To complete the master's degree in physiology, the student must ordinarily have completed a minimum of 30 semester hours of graduate credit. The student is required to pass an oral or written examination over the field of physiology and the thesis topic, and must present an acceptable thesis demonstrating ability to perform high quality research under supervision.

Equivalent work completed at other institutions or in other departments may be substituted for a part of the course requirements for graduate work in physiology.

Master's students are encouraged but not required to attain competence in at least one research tool (computer sciences, statistics, electronics, advanced mathematics, electron microscopy, etc.). Competence may be demonstrated by successful completion of appropriate courses or by private study, as determined by the student's graduate advisory committee. A minor is not required for the master's degree in physiology; however, a student may elect to obtain a minor in any other intellectual area approved by the department.

Doctoral Program

Students entering the doctoral program in physiology should present as a minimum the requirements listed above for the master's degree program. In addition, it is strongly recommended that the doctoral student have completed calculus and physical chemistry. Students with prior training in chemistry, physics, engineering, computer sciences, etc., can usually expect to spend some additional time acquiring the requisite biological sciences background.

For admission to doctoral candidacy, the doctoral student should have completed a reasonably broad spectrum of courses offered by the department, should have acquired a competence in two of the research tools mentioned above, and must have successfully passed a written examination and an oral qualifying examination.

Ordinarily, doctoral students should expect to spend a minimum of three years beyond the bachelor's degree or two years beyond the master's degree, in

residence. They will be required to present an acceptable dissertation describing original research performed with minimal supervision and deemed by their graduate committee to be of such quality as to merit publication in the refereed literature of the field. A final oral examination will be held over the field of the dissertation.

Plant and Soil Science

The Department of Plant and Soil Science offers programs of study leading to the Master of Science degree in plant and soil science with concentrations in the areas of crop, soil, and horticultural sciences; a specialization in environmental studies in agriculture is also available in each of these concentrations. Supporting courses in botany, microbiology, chemistry, statistics, and other areas essential to research in the student's chosen field may be selected. Supporting courses are selected on an individual basis by the student and the advisory committee. Once the general field has been selected, the research and thesis may be completed in any one of the many divisions of that field. In field crops, the research may be directed toward crop production and management, weeds and pest control, or plant breeding and genetics; in horticulture, the research and thesis may be in vegetables, tree-fruits, small-fruits, floricultural and ornamental plants, or turf management; in soils, the research may relate to soil fertility, soil physics, soil microbiology, soil chemistry, or soil and water conservation; in environmental studies, the research may be directed toward sound pollution, water pollution, reclamation of strip-mined soil, or agricultural chemical pollution problems. Often two of these more restricted areas can be combined in one thesis problem.

Students interested in plant and soil science at the doctoral level can be admitted to a program of study leading to the Ph.D. degree in botany. The program, which is administered by the Graduate School through the Department of Botany, is adequately flexible to allow students to explore such interests as plant physiology, plant nutrition, chemical control of plant growth, plant genetics, etc.

Admission

Application for admission to graduate study in the department should be directed to the Graduate School. The applicant must have the registrar of each college previously attended send an official transcript directly to the Graduate School. In addition applicants should send a letter directly to the chairperson of the Department of Plant and Soil Science expressing their professional and personal career objectives. Applicants should also request that three persons who can evaluate the student's academic ability write letters directly to the chairperson in their behalf. Final admission to the program and a particular concentration administered by the Department of Plant and Soil Science is made by the department. Minimal admission requirements to the program are: a) completion of the plant and soil science undergraduate requirements and b) a minimal grade point average of 2.7 ($A = 4.0$). The students who do not meet the requirement of completing the required courses in the undergraduate program in plant and soil science may apply to enroll as unclassified students to make up these deficiencies. Undergraduate course work taken to correct these deficiencies will not apply to the minimum requirements for the master's degree. Students entering the plant and soil science graduate program with a GPA below 2.70 are accepted on a conditional basis and must enroll in 12 hours of structured courses at the 400-500 level and make a GPA of 3.0 or be suspended from the program.

Program Requirements

Minimum requirements for the master's degree may be fulfilled by satisfactory completion of 30 semester hours of graduate credit. Of the 15 hours required at the 500 level, no more than 10 credit hours of unstructured courses may be counted toward the degree. If the student writes a thesis, 15 semester hours (which may include thesis credits) must be in plant and soil science courses; if the student submits a research paper (non-thesis option), 20 semester hours must be in plant and soil science courses. There is no foreign language requirement.

Each student, whether in the thesis or non-thesis option will be assigned a mutually agreed upon major professor to direct the program. The major professor will serve as chairperson of the student's advisory committee which will consist of at least three members from within the department and one member from another department. Each master's degree candidate must pass a comprehensive oral examination covering graduate work including the thesis or research paper. The departmental chairperson will always serve on the examining committee.

Political Science

The Department of Political Science endeavors to accommodate the special and general interests of students through a broad curriculum, individualized programs, and varied teaching and research assistantships. The department takes a personal interest in its students throughout their period of enrollment and assists them in finding satisfying professional employment upon graduation. Graduates now hold academic appointments in sixty American universities and colleges and ten foreign institutions of higher education. These include the Universities of Arkansas, Missouri, Massachusetts, Nebraska, and Oregon, California State at San Diego, and Texas A & M. Within Illinois, they serve on the faculties of Eastern Illinois University, University of Illinois, Sangamon State University, Southern Illinois University, and Western Illinois University. Graduates are also employed in various governmental agencies at the national, state, and local level.

The professional interests of the faculty range over all of the fields of political science, and have resulted in significant scholarly publications and presentations at professional meetings.

Graduate programs in the Department of Political Science may be designed to lead to a Master of Arts degree in political science, a Master of Public Affairs degree, or a Doctor of Philosophy degree in political science. Graduate work in political science may be taken to satisfy requirements for a teaching specialty for the Master of Science in Education degree in secondary education or in higher education. Graduate work in political science may also serve as a cognate field for a student majoring in another discipline.

Provisions of this catalog are supplemented by policies spelled out in the regulations and procedures of the graduate studies program of the Department of Political Science and made available to all graduate students.

Application Procedures

Application for admission to graduate study in political science should be directed to the Graduate School in conformity with the requirements. In addition, supporting materials should be sent to the director of graduate studies, political science department. These materials consist of (1) the personal

and professional data form; (2) three letters of recommendation from persons who can evaluate the applicant's academic ability; (3) a careful explanation of reasons for seeking graduate study; and (4) scores on the Graduate Record Examination (GRE) verbal and quantitative tests. Foreign students applying from abroad are not required to submit GRE scores, but are advised to do so if they are applying for financial assistance. In exceptional cases the GRE may be waived as an admission requirement, but it must be taken at the first offering of the examination after the student enters the program. Application material, including forms for applying for financial assistance, may be obtained from the director of graduate studies, political science department. Applications and supporting materials should be submitted at least four weeks before the term of registration. Those applying for teaching assistantships or fellowships should complete their applications by February 1.

Master of Arts Degree Requirements

Admission. Applicants for the Master of Arts degree program are admitted only with the approval of the graduate studies committee of the department. The department imposes requirements for admission in addition to those of the Graduate School. The department will ordinarily accept as candidates for the Master of Arts degree only those applicants who (1) have graduated from an accredited four year college or university; (2) have completed a minimum of 24 quarter or 16 semester hours in government or political science; (3) have a 2.7 (4-point scale) overall grade point average or, alternatively, have a 2.9 overall grade point average for the last two years of undergraduate work; and (4) have a 3.0 average in government or political science.

Retention. Retention is governed by the rules of the Graduate School. Students should avoid the accumulation of incomplete grades. No student with more than two incomplete grades can be awarded a graduate student appointment, and a student holding a graduate student appointment is subject to having the appointment terminated upon acquiring two or more incomplete grades.

Course work. The director of graduate studies serves as adviser to each M.A. student until an advisory committee has been selected by the student with the approval of the director, normally no later than the middle of the student's first semester in residence. The advisory committee must approve the student's program. The student must earn a minimum of 30 semester hours of acceptable graduate credit to qualify for the Master of Arts degree. A maximum of 12 hours can be earned in 400-level courses. A minimum of 6 semester hours must be completed in each of three of the fields of concentration listed under the Ph.D. requirements. The selection of fields of concentration must be approved by the student's advisory committee.

The student who completes the minimum of 30 semester hours of course work may devote no more than 6 of those hours to courses taken outside of the department unless the work is in an approved cognate area. In the latter case, a maximum of 12 hours in the cognate area may be counted toward the fulfillment of the area and degree requirements.

Each candidate for the Master of Arts degree must complete Political Science 500. Proficiency in one research tool complementing the selected fields of concentration is also required, i.e. statistics, computer science or foreign language. Methods of demonstrating proficiency are the same as those required of Ph.D. students. A student may count a maximum of 6 semester hours of 400- or 500-level tool course work toward partial completion of degree requirements, provided that (1) no more than 6 semester hours of an approved cognate are

counted as part of the 30 semester hours and (2) the tool courses are not counted as fulfilling one of the field requirements.

Thesis. In addition to the required course work, the student must submit a thesis, an internship report of thesis quality, or two research papers approved by a department committee as satisfactory demonstration of research ability. A student may receive a maximum of six hours credit for the thesis or internship report, but the student offering two research papers must complete 30 hours of course work. Before registering for thesis or internship credit, the student must have an overall GPA in M.A. work of at least 3.0 ($A = 4.0$) and must have completed the research tool requirement and selected a thesis or internship committee approved by the director of graduate studies. The membership of the advisory committee and the thesis or internship committee need not be identical. A prospectus outlining the research proposed for the thesis or internship report must be approved by the members of the thesis or internship committee and filed with the director of graduate studies. The acceptability of the two research papers offered as an alternative to a thesis shall be determined by a committee consisting of the student's advisory committee and two members of the graduate studies committee appointed by the director of graduate studies.

A final oral examination conducted by the appropriate committee and open to the public will cover the thesis, internship report, or the two research papers and the student's general competence in political science. A student may not take the examination if there are any incomplete grades on record except by petition to the graduate studies committee. If the student fails the examination or if the thesis, internship report, or research papers are rejected, the student may be dropped from the department's degree program or may submit a new or revised thesis, report or research papers, or repeat the examination at the discretion of the examining committee.

Copies of the thesis, internship report, or two research papers should be submitted to the student's thesis, internship or advisory committee members no later than one week before the scheduled final oral examination. A copy of the approved thesis, internship report, or research papers must be filed with the director of graduate studies.

Exceptions. An exception from these rules must be justified in a petition approved and signed by the student's committee members, submitted to the director of graduate studies and approved by the members of the graduate studies committee at a scheduled meeting.

Master of Public Affairs Degree Requirements

Applications for admission should be directed to the Graduate School and the director, Master of Public Affairs degree, Department of Political Science. Graduate Record Examination scores are required. To be considered for an assistantship from the M.P.A. program, a letter indicating interest and extent of financial need should be sent to the director prior to April 1 for awards beginning the following fall. Applications are evaluated by the director, Master of Public Affairs degree program, and the program's steering committee.

To be considered for admission, applicants must have: (1) graduated from an accredited four-year college or university and (2) received an overall grade point average of 2.7 (4.0 scale) or, alternatively, a 2.9 overall grade point average for the last two years of undergraduate work. In instances where a candidate's promise is indicated by professional experience rather than undergraduate record, consideration will be given on an individual basis to condi-

tional admission. If a candidate's undergraduate background is inadequate preparation for specific graduate courses being planned, it may be necessary to enroll in preliminary or prerequisite courses at the undergraduate or graduate level. Graduate-level courses taken to remedy undergraduate deficiencies may be applied to the degree on approval of the director.

Retention is governed by the standards of the Graduate School.

Requirements for completing the degree are: (1) satisfactory completion of courses as listed below; (2) completion of 36 semester hours of graduate credit, 15 of which must be on the 500 level; and (3) satisfactory performance in either an agency internship or an applied study project, for which up to 6 semester hours of graduate credit can be earned.

Core courses required of all candidates are advanced public administration, planning and budgeting systems, and program evaluation. Before taking certain advanced courses, students must have acquired a basic knowledge of statistics. In addition, prerequisite courses are required in some instances.

The student must also complete the specified minimum number of hours in each of the following core areas, taking courses in any of several departments of the University which are certified by the director of the program as fulfilling area requirements:

1. Theory (3 semester hours minimum)—courses in management theory or organization theory.
2. Techniques (6 semester hours minimum)—courses in accounting, budgeting, public finance, personnel administration, collective bargaining, planning, statistics, computer science, research design and methods, policy analysis, information systems, and operations research.
3. Behavior and Institutions (6 semester hours minimum)—courses in political, managerial, and organizational behavior, administrative institutions and processes, American government and politics, public policy, economics, sociology, political communication, labor relations, and urban geography.

Additional credits may be completed either in these areas or elsewhere in the graduate curriculum. In selecting these added credits, candidates are encouraged to consider courses in their substantive professional area, e.g., administration of justice, community development, educational administration, forestry, recreation, rehabilitation, social work, transportation and highway engineering, and water resources.

Students who have not taken an undergraduate course in public administration must audit POLS 340-3 or make other satisfactory arrangements. In addition, each candidate must have completed at least one graduate course in American government. The director must approve the student's initial program of study. This program should be tailored, to the extent possible, to the students' individual needs and interests and to those of the agency in which they are employed or intend to be employed, if known. Course work may be taken on a full-time or part-time basis, although all work must be completed within six years.

Candidates who have not had at least one year of professional experience in an approved government agency or related organization must enter an internship arranged or approved by the director. Candidates with one year or more of approved experience must undertake an approved applied study project. For either the internship or project a written report must be prepared, in accordance with a prospectus approved by an advisory committee (formed for this purpose), and filed with the director.

Each candidate shall satisfactorily complete a final oral examination, conducted by the advisory committee and open to the public. The examination may be given only after all course work is complete. It will cover the written report, the major area in which it is written, and the student's general

competence in the fields studied. If the examination is failed more than once, the candidate is dropped from the program. A copy of the approved written report must be filed with the director and with the Graduate School before the student's graduation application will be approved.

An exception from these rules must be justified in a petition approved and signed by the student's advisory committee members, submitted to the director, and approved by members of the program's steering committee at a scheduled meeting.

Concurrent Degrees in Law and Public Affairs

Students who have been admitted separately to the Southern Illinois University at Carbondale School of Law and graduate program in public affairs may study concurrently for the Juris Doctor and Master of Public Affairs degrees. Students interested in concurrent study should inform both programs before entering the second academic year of either program and will register as law students with a minor in public affairs. Each program will maintain records and evaluate final degree requirements as if the student were enrolled in only one program.

Concurrent study students must complete a minimum of 81 semester hours of School of Law credits which meet all law area requirements, as well as all M.P.A. requirements to receive the J.D. degree. Students will not be permitted to take coursework outside the prescribed law curriculum during the first year of law classwork. Students may enroll for both law and graduate coursework during subsequent years provided a minimum of ten semester hours of law and twelve semester hours total are taken in any term which has law course enrollment.

Concurrent study students must complete a minimum of 36 semester hours which meet the distribution requirements of the M.P.A. program to receive the M.P.A. degree. A maximum of 6 semester hours of School of Law credits of a public affairs nature (for example administrative law, environmental law, labor law, natural resources law) may be applied to both J.D. and M.P.A. requirements if approved by the director of the M.P.A. program. All concurrent study students will complete either the M.P.A. internship experience and project, or the applied study project. Internships will normally be scheduled during the third or fourth year of concurrent study.

Psychology

The Department of Psychology offers graduate work leading to the Master of Arts, Master of Science, and Doctor of Philosophy degrees in psychology with concentrations in the following areas: experimental, clinical, and counseling psychology. The primary emphasis is on doctoral training, for which the master's degree is a prerequisite.

The goal of graduate study in the Department of Psychology at Southern Illinois University at Carbondale is to develop psychologists who will have a broad perspective and scientific sophistication as well as the requisite skills to advance the field of psychology and meet changing needs. The program emphasizes formal course work in the core curriculum and concentrations, and preprofessional activities in training assignments and in research and practicum opportunities.

Admission and Advisement

Separate application forms must be submitted to the Department of Psychology and to the Graduate School. Graduate School application forms may be

obtained from the Graduate School office, and departmental application forms may be obtained from the Department of Psychology. Separate forms are not required for application for financial assistance, except for Graduate School fellowships. Students will be accepted for graduate work in psychology only upon approval by the departmental admissions committee as well as the Graduate School. Evaluations of applicants by the departmental admissions committee are based on information from the application form, GRE scores, transcripts, and letters of recommendation.

Upon admission to the department, each student is assigned to a faculty adviser, who assists in academic matters, including the planning of the entire program of study: required courses, planned electives, anticipated dates for fulfillment of specified requirements, etc.

A new adviser may be assigned to a student for two reasons: (a) the student or adviser may request a change of adviser; (b) the student may change to a different major area. Requests for a change of adviser should be made in writing to the student's major area committee. To change majors, the student should petition the area subcommittee of the new major.

Core Curriculum

During the first year all students are required to take a two-course sequence in quantitative methods and research design (522a and b, or the equivalent). All students enrolled in the master's degree program should have completed the thesis requirement (599, 4-6 hours) by the end of the second year. Six additional elective courses in areas other than the major are required in order to provide breadth as well as some degree of depth in the total field of psychology. In consultation with the adviser, the student selects electives. Those in the experimental program select from the following areas, subject to the approval of the faculty teaching in those areas: applied experimental, biopsychology, learning or any other area in the department or an approved area outside the department. Students in the clinical and counseling programs meet this requirement by selecting courses from the above area with the stipulation that, at minimum, the distribution of courses meet the American Psychological Association accreditation requirements.

Areas of Concentration

EXPERIMENTAL PSYCHOLOGY

The concentration in experimental psychology offers courses of study toward careers in teaching and research and in applied research. The student is expected to specialize in at least one of three areas of experimental psychology: applied, biopsychology, learning. In addition to general departmental requirements, students are required to take a course in computer programming and a seminar in procedures and problems in clinical psychology. The student is also required to take research credit during all but the first two semesters of residence.

CLINICAL PSYCHOLOGY

The clinical psychology program, approved by the Education and Training Board of the American Psychological Association, is designed to develop clinical psychologists for careers in clinical service, teaching, and research. All clinical students take the core of courses and receive early and continued practicum training in both clinical activities and research. Individual interests are accommodated through electives and training assignments and through specialty programs. The following courses are required of all clinical students: 523, 530a and b, 531, 535, 432, 540, 594E, 598.

In addition to the clinical core students take a minimum of six additional

courses in their specialty: (1) general clinical students are required to take an assessment practicum and an additional semester of therapy practicum plus 4 electives; (2) the experimental clinical students are expected in their six additional courses to take those which have a research orientation, e.g., 532, 533, 539, etc.; in addition, except when enrolled for thesis or dissertation hours, the student is expected to be involved in research each term after the first year; (3) students in the child clinical specialty are required to take 556 plus 5 electives. In addition it is expected that they will take 552 and 554 as a part of departmental electives.

COUNSELING PSYCHOLOGY

The counseling psychology program, approved by the Education and Training Board of the American Psychological Association, is designed to teach students a wide range of skills which will prepare them to function as scientist-practitioners. Graduates are qualified for employment in a university setting (either in an academic department or a counseling center), in hospitals, community agencies, and educational and correctional institutions. The student is expected to develop competence in counseling, psychological assessment, consultation, research, and teaching. The required courses are as follows: 530a, 538, 547, 548, 585, 594f, and 598. In addition, the following electives are recommended: 530b, 531, 532, 539, and 585.

Research, Practicum, and Training Assignments

Research or practica are required in each area of concentration. In addition, each term the student must be engaged in a training assignment which supplements formal course work by professional activities such as research, teaching, or clinical service. The assignment varies according to the needs, professional goals, and competencies of the student, and increases in responsibility as the student progresses. The assignments require from 10 to 20 hours of service per week. This is a degree requirement of all students each term and is independent of any financial support. Therefore, each term the student signs up for one hour of 597.

Master's Degree Requirements

The master's degree requires a minimum of 48 semester hours of acceptable graduate credit, distributed according to the requirements of the student's major area, and the completion of an approved thesis. The master's thesis may be either original research or the replication of an important study. The master's degree is a prerequisite for the doctorate.

Doctoral Requirements

Admission. Admission to the Ph.D. program requires a master's degree, a grade point average of 3.25 or above in graduate studies, and acceptance by the department. A student who receives the master's degree from SIU at Carbondale must apply formally to the Graduate School for admission to doctoral-level study, and be approved by the department chairperson.

Records of students entering the program with a master's degree from another institution are evaluated by the departmental admissions committee which notes deficiencies, recommends methods for removing them, and specifies a time limit to do so. Such deficiencies must be removed before the student can be classified as a Ph.D. candidate. The student is recommended to the graduate dean for admission to Ph.D. candidacy only when the statistics sequence, core requirements, and all of the preliminary examinations have been completed.

Internship. Doctoral students who are majoring in clinical or counseling psychology must complete an approved internship: 48 weeks for clinical students, and the equivalent of nine months for counseling students. The timing of the internship varies from program to program; clinical students may take their internship at any time after the completion of the M.A. In order to intern in the third year, a master's thesis prospectus must be approved by the end of the fall semester of the second year. They will not be approved for internship unless this stipulation is met. Alternatively, they may opt to complete all academic requirements before internship. Counseling students are approved for internship after completion of three years of academic work, unless they have opted for a concurrent internship. In the latter case, the student carries a half-time internship for two years concurrent with school attendance. Since the internship is viewed as an integral part of training, the Ph.D. degree is not awarded until the completion of all academic work and the internship.

Students are responsible, in consultation with their advisers, for scheduling and obtaining internships. It is expected that the internships will be with an APA approved internship agency, unless an exception has been approved.

Preliminary Examinations. Ph.D. candidacy is contingent on successful completion of written examinations in both the minor and major areas. Both examinations are composed primarily of essay questions that require substantive knowledge of experimental and theoretical topics. Questions are not limited to course content. The examinations are designed to ensure the breadth and depth in the student's training, encourage the student to organize and integrate knowledge, and inform the faculty as to the student's competence.

Every student is expected to pass each examination the first time it is taken. In any event, the student will not be permitted to take either the minor or the major exam more than twice.

Minors. The examining committee shall consist of at least two faculty members, one of whom will be designated as chairperson. After preliminary discussion of a topic area with the proposed committee chairperson and potential committee members, the student must meet with the major area director and present for final approval a request for the topic area and the examining committee (including additional examiners, if appropriate, and alternate readers).

The student must meet with the committee at least ten weeks prior to the examination in order to agree upon topics to be covered by the examination and to decide what additional preparation is necessary to assure adequately prepared action. Any changes in topic area or composition of the committee must be approved by the major area director. Should the student fail an examination there is the option of forming a different committee to administer the second examination subject to all the rules stated above.

Major. Fields of concentration for the preliminary examination in the major are listed below:

1. Experimental. Any one field from the following may be selected for the major examination: applied, biopsychology, learning.
2. Clinical. The major examination includes the following: psychological assessment, psychotherapy, psychopathology, and personality. In addition, for the student, the examination reflects the specialization emphasis, i.e., general, child, experimental, or clinical.
3. Counseling. The major examination includes the following areas: (a) vocational psychology and career development, (b) assessment, (c) counsel-

ing theories and techniques, (d) research methodology and measurement, (e) group counseling, and (f) counseling as a profession.

The major examinations are scheduled by the department once a term, ordinarily within the first two weeks. Notices are posted well in advance and students are expected to notify the graduate secretary of their intention to take the examination. Examination committees are appointed by the chairperson.

Dissertation. Each candidate for the Ph.D. degree must write a dissertation showing high attainment in independent, original scholarship and creative effort. A total of 24 credit hours is required. A maximum of 8 hours of dissertation credit may be taken subsequent to passing the minor preliminary examination and prior to passing the major preliminary examination. A student may not hold a prospectus meeting before successful completion of both minor and major examinations.

Thesis and Dissertation Committee

Because the thesis or dissertation project and the proposed committee composition must be formally approved by the department chairperson, the student should arrange a meeting with the chairperson well in advance of the prospectus meeting.

A master's thesis committee consists of three members including the chairperson of the committee and a psychology faculty member who is typically from some field other than the student's major area of interest. The Ph.D. dissertation committee consists of five members, one of whom serves as chairperson. One of the members must be from a department other than psychology.

Prospectus. Prior to starting the experimental research on a thesis or dissertation, a student must submit a written prospectus to each member of the committee. A carefully written prospectus ordinarily serves as the opening chapters of the thesis or dissertation. The student also prepares an abstract (normally no more than two pages) to be posted in the psychology department office one week before the prospectus meeting.

The approval of the prospectus indicates that the committee members accept the research design. Faculty members not on the committee may attend the prospectus meeting, or may forward suggestions and comments to the committee chairperson prior to the meeting. Prospectus meetings are not scheduled during the recess period between semesters.

Doctor of Philosophy Degree Requirements

Admission. Applicants for the doctoral degree are admitted only with the approval of the graduate studies committee of the department. In addition to Graduate School and other departmental requirements, the committee ordinarily requires a grade point average of 3.5 (4-point scale) in graduate-level work and adequate background in political science.

Retention. Retention is governed by the rules of the Graduate School. Students should avoid accumulating incomplete grades. Students holding graduate student appointments are expected to make reasonable progress toward a degree. No student with more than two incomplete grades can be awarded a graduate assistant appointment, and a student holding a graduate assistant appointment is subject to having appointment terminated upon acquiring two or more incomplete grades.

Program of Study. The work of a Ph.D. student is directed toward admission

to candidacy for the doctorate, for which the student must meet the residency requirement, meet methods and research tool requirements, maintain a GPA of at least 3.5, and pass preliminary examinations in four fields of concentration.

The student must be in residence for at least one year (two semesters in each of which the student completes at least 9 hours or 6 hours if the student holds an appointment) after admission to the Ph.D. program before preliminary examinations can be taken. Residence shall be counted from the time when the student passes the final examinations for the master's degree.

The student's program must be approved by an advisory committee selected by the student and approved by the director of graduate studies. The members of the advisory committee should represent the student's field of concentration.

The student must take four written examinations with an oral examination following. The fields of concentration are: political theory or methodology; American government and politics, public administration and policy analysis; comparative government and politics; international politics, law, and organization; a cognate or interdisciplinary field.

The examinations will be taken in four of these fields; or the student may, with the consent of the advisory committee, take examinations within two sub-fields of the field of primary concentration and in two other fields. Thus, for example, a student might take examinations in urban politics and in political parties within the American politics field, and also in international politics and political theory. The student must have completed a minimum of six hours of course work, including not more than three hours of readings or individual research, at the M.A. or Ph.D. level, in each field or sub-field of examination. In addition, the student must complete the requirements for two research tools (see below) and the two Political Science 501 research methods courses best complementing the student's fields of study. Students may propose substitutes to the graduate studies committee for approval. The student's advisory committee may require additional course work, in or out of the fields of examination. At least half of all course work must be in 500 level courses.

Preliminary Examinations. Before preliminary examinations can be scheduled the student must have successfully completed two of the Political Science 501 courses, all coursework, and two research tools, have an overall GPA in Ph.D. work of at least 3.5 and have had an appropriate preliminary examination committee approved by the director of graduate studies. Students may not take preliminary examinations if there are any incomplete grades on their records except by petition to the graduate studies committee.

The four written preliminary examinations are to be completed within a period of ten days; an oral examination follows within one week of the last written examination upon the approval of the examination committee. If the students pass the written and oral examinations, they are advanced to candidacy for the Ph.D.; if they do not pass, they may be permitted to retake the examinations at a later date or be dropped from the degree program of the department, at the discretion of the examination committee.

Research Tools. All Ph.D. degree students must satisfy a statistics tool requirement by earning at least a C in both Mathematics 516a and 516b, an interdisciplinary sequence taught by mathematicians, political scientists, and sociologists. Any exception to this statistics tool requirement must be approved by the graduate studies committee, e.g., a student with adequate course work in calculus might propose Mathematics 483 and 487 or 488. The second required tool may be satisfied by selecting either a foreign language, computer science, or a tool designed specifically for the student's research interest and approved by the student's advisory committee and the graduate studies committee. A

tool field may be offered as a preliminary examination field only if (1) it does not include the course work used to fulfill the tool requirement; (2) it is of a more advanced level of expertise than that assumed for the tool requirement (at least one more year of advanced coursework); and (3) it is approved by the student's advisory committee.

Passing the Educational Testing Service foreign language examination with a minimum score of 465 may be used to fulfill the requirement in the common languages (Spanish, German, French, or Russian). A special examination locally administered is used for the uncommon languages, such as Arabic, Chinese, or Vietnamese.

Alternatively, the language requirement may be satisfied through the successful completion of 488a and b in the Department of Foreign Languages and Literatures with a minimum grade of *B* in 488b. Where the Department of Foreign Languages and Literatures recommends that the student start with 488b, the completion of the recommended course with a grade of *B* in 488b will satisfy the requirement. Students whose native language is not English may offer English to satisfy one tool requirement.

The student may choose one of three options for demonstrating proficiency in computer science.

1. Computer Science 202 and either Computer Science 204, or an appropriate upper-level course, e.g. 302, 314, 314L, 370, or 470, with a grade of *C* or better required in the second course to fulfill the requirement.
2. Computer Science 202 and Political Science 503 with a grade of *C* or better required in each course to fulfill the requirement.
3. Computer Science 202 and the successful completion of a programming problem assigned by the Department of Political Science faculty.

Research tool courses taken at other institutions may be submitted to the director of graduate studies for consideration as courses equivalent to those specified above.

This department is amenable to self-tailored programs subject to the expertise of the faculty and the approval of the graduate studies committee. Such approved programs may suggest the need for tools in addition to or in place of those tools specified in this section.

Dissertation. A dissertation must be written under the direction of and with the approval of a five member committee, one of whom must be from outside the Department of Political Science. The members of the committee need not be the same as the members of the preliminary advisory committee. A dissertation prospectus must be approved by the members of the dissertation committee and filed with the director of graduate studies. Students must register for a minimum of 24 hours of dissertation credit, and cannot register for dissertation credit until they have been admitted to candidacy or, with the approval of the advisory committee and the director of graduate studies, for the term during which preliminary examinations are scheduled.

An acceptable dissertation must be completed within 5 years after admission to candidacy, or the student will have to repeat preliminary examinations. Final copies of the dissertation should be submitted to the members of the dissertation committee no later than 10 days before the scheduled oral examination. The successful passing of a final oral examination devoted primarily to a defense of the dissertation and open to the public will complete the requirements for the Doctor of Philosophy degree. A final copy of the dissertation must be filed with the director of graduate studies.

Application of Rules and Exceptions. The department's rules in force at the time of the student's admission to the Ph.D. program will apply while the stu-

dent is in the program unless (1) the student voluntarily selects a newer set of rules in total before graduation or (2) the time between admission to the Ph.D. program and passing the preliminary examinations exceeds 5 years. In the latter case, the student will automatically come under the rules in force at the beginning of the sixth year and every fifth year thereafter until the preliminary examinations are passed.

Requests for exceptions to any of the above requirements must be presented in a petition approved and signed by the members of the student's committee, submitted to the director of graduate studies and approved at a scheduled meeting of the graduate studies committee.

If the prospectus is approved with no major modifications, one copy of the prospectus and a letter of approval, noting any minor modifications are sent by the committee chairperson to the department chairperson for filing in the student's permanent records. If major modifications are needed, the student may be asked to rewrite the prospectus, circulate the revised prospectus, arrange another committee meeting, and then file the revised prospectus as above. A prospectus must be approved at least one semester before graduation.

Style. The student has the option of writing the thesis or dissertation in the traditional fashion or in journal style. In the latter case, ancillary material (full survey of literature, subsidiary analyses, etc.) are placed in the appendices, although figures and tables appear in the text. The psychology department prefers that citations, table headings, etc. follow the APA style (Publication Manual of the American Psychological Association, 1974 revision, Washington, D.C.).

General Procedures. Students should not register for 599 or 600 hours until they have supervisors and will actually be using university facilities, or faculty time for assistance and direction.

Prior to graduation (a minimum of five weeks for master's students and eight weeks for doctoral students) the candidate must submit a final rough draft of the thesis or dissertation to the full committee so that appropriate suggestions can be made. At least one week usually expires between the submission of the rough draft and the oral examination.

Number of Copies. Four copies of the complete thesis or dissertation are required: two copies are submitted to the Graduate School for placement in the University library, and two bound copies—one for the committee chairperson, and one for the departmental thesis and dissertation library.

Oral Examination

The Department of Psychology requires an oral examination, conducted by the student's thesis or dissertation committee, for each M.A. and Ph.D. candidate. The examination covers the thesis or dissertation and also includes questions designed to ascertain the student's general competence in psychology.

Oral examinations are open to all interested observers. Notices of the time and place of the examination, and abstracts of the thesis or dissertation, are circulated throughout the department and, in the case of Ph.D. examinations, throughout the University. Two copies of the abstract should be given to the graduate program secretary.

The candidate obtains copies of the oral examination form and the thesis or dissertation evaluation form from the graduate program secretary, and delivers them to the committee members on the day of the orals. Orals meetings are not scheduled during the recess period between semesters.

General Information

Waiving of Course Requirements. Students who wish to have a course waived should consult with their advisers, the course instructor, and the head of their major area. One of the following recommendations will be made: (a) the course will be waived; (b) a proficiency examination (theoretical, practical, or both) will be given prior to deciding on the student's request; (c) the request will be refused and the student will take the course. A student may appeal the decision by writing a letter to the department chairperson requesting that the case be reviewed.

Grading Policies. Any student who receives a grade of *Inc.* is responsible for contacting the instructor to determine the time allowed for the completion of the course (normally not more than one year).

For internal records to be used within the department only, plusses and minuses are added to the standard A, B, C grades reported to the registrar.

Student Evaluation. All students are evaluated by the faculty at least once a year, at the end of spring semester. In addition, new students are evaluated in the beginning of the spring semester (first year), and students on probation at times specified in their probation. The evaluation is based on the following criteria: (1) academic performance on a ten point rating scale ($A = 10$); (2) ratings on the training assignment; and (3) progress toward the degree. The student's evaluation may also be based upon evidence relating to professional attitudes or ethical behavior.

Each student's adviser informs the student of the evaluation and of any faculty recommendations as soon as possible after the meeting. In addition, the department chairperson writes a formal letter notifying the student of the evaluation and recommendations.

Public Affairs

(See Political Science for program description.)

Public Visual Communications

The Master of Arts degree in public visual communications is sponsored jointly by the Departments of Cinema and Photography and Radio-Television and is intended to provide substantial advanced training in the theory, history, and practice of public communications. Emphasis in the program is upon the social influences and applications of the electronic and photographic media.

CINEMA, TELEVISION, OR STILL PHOTOGRAPHY

Within the general program students can elect to concentrate either in cinema, television, or still photography or any combination of cinema, television, or still photography in an interdisciplinary configuration.

In the cinema concentration students may specialize in film history, in film theory, or in motion picture production. Cinema students may earn credit toward their PVC degree by studying at the Inter-University Film Study Center in Paris. Information about this program is available from the Department of Cinema and Photography. In the television concentration work will ordinarily be limited to the theory and practice of public telecommunications in

the areas of content development, audience analysis, media characteristics, management and administration, and social effects. In the still photography concentration students may specialize in history of photography, publications photography, scientific photography, or creative photography.

Acceptance in the program, and subsequent continuation in it, are at the discretion of the Graduate School and the program in public visual communications. Minimal admission requirements are those of the Graduate School. Prior to admission into the program, applicants will be expected to present evidence of their creative work, scholarship, and specifically, a minimum of 9 semester hours of courses in the social sciences to a program acceptance committee. In addition students will be expected to have a minimum of 18 semester hours in photography, film studies, or radio-television courses. Students who seek admission without undergraduate preparation in any of the above will be required to make up deficiencies before receiving graduate credit for work in this program. Courses taken to satisfy such undergraduate deficiencies will not apply toward the graduate degree.

Course hour requirements for the program are 30 semester hours. Of these, 6 hours must be in a department other than cinema and photography or radio-television, and 15 hours must be at the 500 level. All students in the program will be required to successfully complete the common core courses PVC 500, introduction to public visual communications; and, as a capstone, PVC 589, seminar in public communications in a dynamic society. All television concentration students will be required to select two from among the following PVC courses: 510, 530, 532, 570, 571, or 580. A 3.0 grade point (on a 4.0 scale) must be maintained for retention in the program. It is expected that students will be in full-time residence for a minimum of one calendar year. If additional prerequisites are necessary, or if extensive creative work is involved, the program may require a longer period for completion.

A maximum of 12 hours of transfer credit may be petitioned into the student's program. An out-of-program course, designed to aid the student in the methodology and skills of research, may be required as agreed upon by the student's committee. This course will not qualify as meeting minor requirements.

As soon as possible after admission to the degree program, and not later than the end of the first term in residence, the student will select a major adviser and a committee of two additional graduate faculty members. This committee will develop with the student a specific plan of study according to the requirements of the Graduate School, the program, and the goals of the student. The major adviser will direct the thesis. Students will be reviewed by the graduate faculty for continuation in the program at the end of their first 12 hours of class work.

In all instances students will be held responsible for a comprehensive written examination over the entire work taken for the degree. An oral examination by the faculty advisory committee will normally constitute part of the graduation requirements.

Graduation requirements may, in part, be satisfied by a traditional written thesis or a final creative project. If the non-thesis option is chosen, the student must take the full 30 hours of coursework including 3-6 hours of PVC 597 resulting in a creative work presented to a public. A related essay or research paper will be submitted to the Graduate School as evidence of ability to undertake formal research. The University reserves the right to retain a sample of each student's work.

Radio-Television

(See Public Visual Communications for program description)

Recreation

The Department of Recreation offers a broad interdisciplinary program of studies preparing students for administration careers in leisure education and recreation management. The program leads to the Master of Science in Education degree in recreation.

Graduate work in recreation stresses research and administration and is open only to highly qualified students. All students must be admitted to the Graduate School in good standing.

The graduate students in recreation may select from two tracks which lead to the M.S. in Education degree. Track I is designed to focus attention on research and those students who plan to pursue graduate work beyond the master's level. The track I option requires a minimum of 30 semester hours of credit, no more than 3 of which may be for the thesis. Students are expected to complete (1) 13 hours of core course work listed below plus (2) an additional 8 hours of recreation course work. A minimum of 24 of the 30 hours required for the track I option must be taken in 500-level courses.

The track II option is designed for those students seeking a terminal degree which will better prepare them for administrative positions in program or management areas. The 36 hour program requires (1) 9 hours of core course work listed below plus (2) an additional 12 hours of recreation course work. A minimum of 18 of the 36 hours required for track II must be taken in 500-level courses.

Core Courses

Track I

Rec 500-3, Rec 550-3 or EDL 500-3, Guid 506-4, Rec 599-3

Total core hours: 13

Track II

Rec 500-3, Rec 550-3 or EDL 500-3, Rec 575-3

Total core hours: 9

A student must maintain an overall 3.0 (4-point scale) grade point average in order to be eligible for the Master of Science in Education degree.

The student should select the chairperson of the supervisory committee as soon as is practicable. The student in conjunction with the chairperson will then select a minimum of two other graduate faculty to complete the committee. Under the track I option, one committee member must be from an outside department. Under track II, all three members may be from within the department. Under either track, all elements of the students' program must receive the approval of the supervisory committee.

The final oral examination will cover the thesis or research paper and the major area in which it is written. A written comprehensive examination will be taken by each student seeking the M.S. in Education in recreation. The written examination, normally in essay form, will not exceed six hours in length, and will be taken prior to the final oral examination. The students must have completed a minimum of 24 hours of course work prior to taking the written comprehensive examination.

APPROVED CONCENTRATIONS

The areas of concentration in recreation are: (1) park and community recreation, (2) recreation for special populations, (3) outdoor recreation, and (4) commercial recreation.

Rehabilitation Institute

In response to pressing human and social needs, the applied field of rehabilitation has solidly entrenched itself as a professional discipline over the past twenty years. Multidisciplinary courses of study have been drawn together from the behavioral, social, and medical sciences appropriate to the development of competent practitioners, supervisors, and programmers in rehabilitation and welfare agencies. The overall program is left purposely broad and flexible to permit the inclusion of training innovations and emerging career patterns.

The Rehabilitation Institute offers graduate programs leading to the Doctor of Rehabilitation degree and to a Master of Arts or a Master of Science degree in behavior modification, rehabilitation administration and services, and rehabilitation counseling.

The Master's Degree Program

While a master's degree in rehabilitation administration and services requires a minimum of 30 semester hours of course work and field experience, behavior modification and rehabilitation counseling are 45 semester hour programs. The distinction between the M.A. and M.S. degrees is one of demonstrable research performance. Candidates for the M.S. degree concentrate primarily on preparation for entry into the helping profession, and ordinarily they complete a project or research paper in their area of specialization. The M.A. degree requires a thesis of an experimental nature, in which candidates demonstrate their skills in formulating researchable questions, in identifying and manipulating experimental variables and in the analysis and the judicious reporting of the data.

BEHAVIOR MODIFICATION

The behavior modification program is a 45 semester hour program leading to either an M.A. or M.S. degree. Formal training is offered in behavior modification and behavior therapy with focus on populations and settings such as mental retardation, emotional disorders, child behavior, sexual problems, behavioral medicine, and consumer and management-related issues.

Degree Requirements

In fulfilling the 45 semester hour requirement, the student must complete the required courses and at least 18 semester hours of didactic coursework in behavior modification as described below.

The internship is usually completed following the first spring or second fall. Some students seek external internships (out of Southern Illinois area). To qualify for one of these internships, students must complete all other program requirements including the thesis before they leave for an external internship.

REQUIRED COURSES

*503-3 Basic Behavior Analysis, taken first fall.

*409-3 Scientific Methods in Behavior Analysis, taken first fall.

- *535-1 Behavioral Observation Methods, taken first fall.
- *584-3 Seminar in Behavior Modification, taken first spring
- ¹589-1 Professional Seminar in Rehabilitation, taken first fall and spring
- ²594b-3 Practicum in Rehabilitation
- 595-8 to 12 Internship in Rehabilitation
- 599 or 593-3 to 6 Thesis or Research Paper

RECOMMENDED COURSES

- *553-3 Learning Therapies for Special Populations
- *508-3 Complex Behavioral Analysis
- ³594b-3 Practicum in Rehabilitation

ELECTIVE COURSES

- *554-3 Behavior Therapy
- *543-3 Child Behavior
- *568-3 Sexual Behavior and Rehabilitation
- *545-3 Behavior Modification in Mental Retardation
- *515-3 Behavioral Applications to Medical Problems
- *574-3 Staff Training and Development
- *557-2 to 6 Self Regulation of Behavior
- *564-3 School Related Behavior

*Indicates didactic behavior modification course.

¹ Credit awarded after first spring.

² Usually first spring prerequisite to internship.

³ Taken from a different faculty member than the first practicum.

THESIS OR RESEARCH PAPER

M.A. Option. This degree requires that one receive an S grade for 1-6 hours of Rehab 599. The thesis will be reviewed both prior to its initiation (as a prospectus) by a 2-member committee, and following its completion (in an oral defense) by a 3-member committee made up of a chairperson and at least one additional member from within the behavior modification faculty. One other member, who may be drawn from outside the faculty of the behavior modification program, will serve as reader and attend the final review meeting.

M.S. Option. This degree requires that one receive a passing letter grade for 1-6 hours of Rehab 593. The research paper will be accomplished under the supervision of one of the faculty of the behavior modification program.

REHABILITATION ADMINISTRATION AND SERVICES

The rehabilitation administration and services program is designed to train students to serve as administrators, coordinators, vocational evaluators, adjustment specialists, placement specialists, and programmers in a wide variety of rehabilitation settings. Its major goal is to develop graduates who are practical, competent rehabilitation professionals through its applied and action-oriented curriculum.

All students in the RAS program receive their degree in rehabilitation administration and services, but each student may elect to pursue an administrative emphasis or a vocational (services) emphasis or both (double concentration). Students with less than 3 years of rehabilitation or related work experience are generally encouraged to pursue a services emphasis or double concentration. Students with no rehabilitation or related work experience are required to pursue a services emphasis or a double concentration. All students must complete a minimum of 30 semester hours of graduate course work and field experience in addition to completing a full-time internship and a research

paper or project. During the first semester of full-time study or a comparable time period for part-time students, the student must file and have approved a plan of study through an adviser with the concurrence of the degree program coordinator. This plan of study must include core requirements, professional course sequences, and electives. Specific requirements are as follows:

Core Requirements

Required of all students

Rehb 400-3 Introduction to Rehabilitation

Rehb 513-3 Medical and Psychosocial Aspects of Disability

Rehb 593-3 to 6 Research in Rehabilitation

Rehb 594-3 to 6 Practicum in Rehabilitation

Rehb 595-1 to 12 Internship in Rehabilitation*

Student Choice 2 to 4 One course dealing with either the specialized setting or population with which the student plans to work.

A Research Paper or Project

*Credit earned in Rehb 595 does not count as a part of the 30-semester hour minimum (A full time internship consists of a minimum of 480 consecutive clock hours. However, the minimum clock hours for 12 semester credit hours is 540.)

Professional Course Sequences

The student must complete a series of courses approved by the student's faculty adviser and degree program coordinator. This series of courses will normally contain a minimum of four courses from one of the professional course sequences below.

REHABILITATION ADMINISTRATION SEQUENCE

Rehb 570-3 Rehabilitation Administration

Rehb 573-2 to 3 Programming, Budgeting, and Community Resources

Rehb 576-2 to 3 Development and Supervision of Rehabilitation Employees

Rehb 579-3 Advanced Fiscal Management in Rehabilitation

Rehab 479-2 Technical Writing in Rehabilitation

Rehb 582-1 to 4 Seminar in Rehabilitation Services

VOCATIONAL EVALUATION SEQUENCE

Rehb 436-3 to 4 Vocational Evaluation and Adjustment Services

Rehb 431-3 Assessment Procedures in Rehabilitation

Rehb 531-3 Individual Assessment Procedures in Rehabilitation

Rehb 533-2 Vocational Appraisal

Rehb 421-3 Vocational Development and Placement

Rehb 479-2 Technical Writing in Rehabilitation

Rehb 501-2 Rehabilitation Foundations

ADJUSTMENT SERVICES SEQUENCE

Rehb 436-3 to 4 Vocational Evaluation and Adjustment Services

Rehb 406-3 Introduction to Behavior Modification

Rehb 553-3 Learning Therapies for Special Populations

Rehb 421-3 Vocational Development and Placement

Rehb 523-3 Job Restructuring for the Handicapped

Rehb 451-4 General Rehabilitation Counseling

Rehb 501-2 Rehabilitation Foundations

JOB DEVELOPMENT AND PLACEMENT

Required courses in addition to core above for this approved concentration:

Rehb 425-3 Developing Employment Opportunities

Two courses from either group A or group B below depending upon student's background:

Group A: Rehb 421, 523, 576, 533, 525, 586

Group B: Fin 476, Econ 436, Econ 532, POLS 428, Psych 576, Mktg 493, Mktg 438

Electives

The students are expected to complete their plans of study with other courses which are relevant to the declared professional course sequence.

Practicum and Internship Requirements

Although students are usually required to complete at least 3 to 6 semester credit hours of practicum as well as a full-time internship, prior and concurrent work experience may be substituted for these requirements if recommended by the student's adviser and approved by the rehabilitation administration and services faculty. The options available to the student wishing to substitute work experience for either practicum or internship requirements are as follows:

Option One. The student may request a waiver of the internship requirement and in turn, substitute 3 semester credit hours of practicum and one additional three semester-hour graduate course or substitute 6 semester credit hours of practicum. These hours are in addition to the required minimum of 30 semester hours of graduate course work.

Option Two. Students with extensive previous work experience in the field of rehabilitation may request waivers of both the practicum and internship requirements. Students currently employed may enroll in Rehb 494, Work Experience in Rehabilitation for up to 6 semester hours of credit. The granting of credit for previous experience is not permitted. Students granted a waiver of the practicum and internship requirements must still complete at least 30 semester hours of graduate course work.

Waiver requests related to options one and two above must be submitted by the student through the faculty adviser to the coordinator of the rehabilitation administration and services program and must be approved by a vote of the rehabilitation administration and services faculty. Waiver requests must include written documentation of the reasons for the request and provide sufficient supporting evidence. Suggested guidelines for the appropriateness of each of the options are: 1) option one for the student with three or more years of satisfactory rehabilitation-related work experience and 2) option two for the student with three or more years of satisfactory work experience directly related to the student's chosen professional course sequence. The student with minimal or no rehabilitation-related work experience will be expected to complete the required 3 to 6 semester hours of practicum and a full-time internship.

Research Paper/Project or Thesis and Comprehensive Examination

The student seeking the M.S. degree is required to complete a scholarly research paper or project in a rehabilitation-related area and an oral or written comprehensive examination. The student seeking the M.A. degree is required to complete a graduate thesis in a rehabilitation-related area and defend it before a thesis committee, an oral or written comprehensive examination, and in addition, an approved course in research statistics or research design.

REHABILITATION COUNSELING

The focus of the rehabilitation counseling program is the training of competent

professionals for the broad field of rehabilitation. The trained professional counselor must demonstrate competencies in establishing counseling relationships, case evaluation, assessment procedures, vocational placement, as well as have an awareness of professional and community resources that can be utilized in the rehabilitation process. Therefore, this master's level training program has three goals:

a. Preparation of professionals who can provide effective rehabilitation counseling service to facilitate the person with a disability in their growth in personal, social and vocational areas.

b. Training individuals to maximize their professional skills through an integration of the theoretical and applied basics of rehabilitation.

c. Preparation of professionals who can provide leadership in the application and delivery of rehabilitation services.

This professional preparation program is based on nationally defined needs for rehabilitation counselor training and has been accredited by the Council on Rehabilitation Education. Upon completion of the program graduates are eligible to apply (via examination) for certification as rehabilitation counselors (C.R.C.).

The overall objective of this program is to provide students with the opportunity for professional development with the skills and knowledge necessary to meet effectively the many challenges in rehabilitation.

General Requirements

To meet these goals, the rehabilitation counseling program requires a minimum of 45 semester hours of graduate work leading either to a M.A. or M.S. degree. The M.A. degree requires a formal thesis and oral examination, while the M.S. specifies a research paper, and the oral examination is optional. Both M.A. and M.S. degrees require the satisfactory passing of a comprehensive examination. Further, all students after completing the majority of their didactic and experiential course work are required to satisfactorily complete a three month full-time supervised counseling internship in an approved rehabilitation setting.

Core Course Requirements

While there is sufficient flexibility in the curriculum so that special interest can be pursued by students through field training assignments, seminars, and the internship assignment, the following core requirements must be met:

- Rehb 400 Introduction to Rehabilitation
- Rehb 421 Vocational Development and Placement
- Rehb 431 Assessment Procedures in Rehabilitation
- Rehb 451 General Rehabilitation Counseling
- Rehb 501 Rehabilitation Foundations
- Rehb 513 Medical and Psycho-Social Aspects of Disability
- Rehb 594c Practicum in Rehabilitation
- Rehb 595 Internship in Rehabilitation

Students often specialize in working with particular disability groups, e.g., mentally retarded, emotionally disturbed, physically disabled, public offender, the elderly.

ALCOHOL SPECIALIST

The program in rehabilitation counseling includes the concentration of alcohol specialist. The objective is to prepare rehabilitation counselors who will have the knowledge and skills needed to serve the alcoholic populations and their families and other affected persons.

The student in this concentration will meet all the requirements for the M.A. or M.S. degree in rehabilitation counseling.

DOCTOR OF REHABILITATION

The doctoral program in rehabilitation prepares students to function effectively in areas of teaching, research, program development, and the administration of rehabilitation programs in a variety of human service settings. It does this by facilitating the student's development and acquisition of relevant conceptual and experiential backgrounds in evaluation and research methodologies, in rehabilitation service, and in programming and management of service units. The course of study requires a minimum of 96 semester hours, post-baccalaureate, 24 of which are dissertation hours. Research and applied experience are concurrently required of all students.

Admission and Retention Standards

All applicable policies and procedures of the Graduate School with regard to the admission of doctoral students will be followed. Admission to the doctoral studies program in rehabilitation however, requires credentials beyond those required by the Graduate School. The admissions committee of the doctoral program will review each candidate carefully to assess their special strengths. The following areas will be considered for all candidates:

1. Demonstration of high academic achievement at the master's level from an accredited university with a major in rehabilitation or closely related field. High academic achievement is normally indicated by a 3.5 GPA at the master's level.
2. Demonstration of basic research skills as indicated by a substantial master's level thesis, research project, or a commensurate research product.
3. Demonstration of successful performance that would accrue to two years full-time paid employment, post baccalaureate, in a rehabilitation or related professional position. This may include an approved internship experience at the master's level.
4. Demonstration of professional competence as indicated by at least three letters of recommendation by professional persons who are familiar with the applicant's performance in academic, research, and related work settings.
5. Personal contact with one or more members of the faculty, or personal contact with an individual not on the faculty but appointed by the admissions and review committee of the doctoral program to conduct the interview when it is not feasible for the candidate to visit the campus.

Applicants will be evaluated for acceptance into the doctoral program at the beginning of either of the two semesters of the year. For a student to be retained in the program, a 3.5 overall GPA must be maintained. Courses in which a grade below *B* is obtained will not be counted toward satisfying the hour requirements for the degree.

Upon admission, the student's preparation at the master's level will be evaluated and up to 30 hours of didactic course work may be accepted toward the completion of the 96 hour minimum requirement for the doctorate. Students must demonstrate course work/competence in the following areas: rehabilitation history and philosophy, foundations of human development and behavior, characteristics and services to special populations (two major populations), medical and psycho-social aspects of disability, standardized assessment procedures, intervention/developmental strategies, vocational development and economic factors in employment.

Students with deficiencies in one or more of these foundation areas may be required to take remedial course work which will not count in the minimum credit computation for the Rh.D.

Advisement

Soon after entering the program, the coordinator of doctoral studies shall, in consultation with the student, approve five members to serve as the student's doctoral committee. The committee shall have four faculty members from the Rehabilitation Institute. One of the persons who is authorized by the Graduate School to direct dissertations shall serve as the committee's chairperson. This individual will also serve as the student's major adviser. The fifth committee person will be chosen from the graduate faculty at large and shall be external to the institute.

Working together with the chairperson, the student shall develop a plan of study, designating the courses that are to be completed. This plan shall be approved by the student's doctoral committee and by the coordinator of the doctoral studies program, and then shall be made a matter of record.

Further, the committee, in accordance with the Graduate School guidelines, shall have the responsibility for developing and evaluating the written and oral preliminary examination and shall serve as the student's doctoral dissertation committee. The student's major adviser will normally assume the responsibility of supervising the conduct of the student's doctoral research. In consultation with the coordinator of the doctoral studies program, the student may request that another committee chairperson or various committee members be substituted for, by persons who, because of their interest or expertise, are more appropriate to the dissertation topic.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Graduate School upon the recommendation of the faculty responsible for the student's program after the student has fulfilled the residency requirement for the Rh.D. degree and passed the preliminary examination.

Residency. The residency requirement for the Rh.D. must be fulfilled after admission to the doctoral program. The residency requirement is minimally satisfied by the completion of 24 semester hours of credit on campus as an Rh.D. student within a period not to exceed four calendar years. Most doctoral students will meet the residency requirement in one year. The residency requirement must be met before formal admission to doctoral candidacy.

Preliminary Examinations. Written and oral preliminary examinations are required of the student. The examinations are given to determine the breadth and depth of the student's knowledge within the discipline. The institute's doctoral committee in consultation with the student's individual doctoral committee has the responsibility of preparing, administering, and evaluating the examinations.

In addition to formal course work, the student will generally prepare for these examinations through independent study. The student shall, with the assistance of the appropriate committees, develop appropriate reading lists covering the areas of the examinations. Preliminary examinations will cover the entire program of study.

Generally, the student will have completed or be concurrently scheduled for a minimum of 30 hours of coursework before being considered eligible for the preliminary examination. These 30 hours shall include at least 21 in the core competency areas and 6 in the specific rehabilitation specialty breadth areas, with a 3.5 GPA or higher overall.

The preliminary examinations will ordinarily be offered in the fall of the second year of doctoral study.

Dissertation

After admission to candidacy, the student will prepare a dissertation based on original research conducted under the direct supervision of the dissertation adviser and dissertation committee. The requirements of the Graduate School will govern the formation of the dissertation committee, the preparation and the defense of the dissertation. While the dissertation is in preparation, the student will register for no fewer than 24 semester hours in Rehabilitation 600, Dissertation.

In addition to the Graduate School requirements, students will be encouraged to prepare an article based on the dissertation in the publication style of a nationally or internationally recognized scientific journal. The dissertation itself should conform to the 1974 revision of the *Publication Manual of the American Psychological Association* and the standards required by the Graduate School.

Degree Requirements

The Doctor of Rehabilitation emphasizes a problem-focus and applied research thrust. As such, each student must acquire appropriate skills in research methodology, a coherent and identifiable body of knowledge in the area of rehabilitation, human behavior, and rehabilitation practices. The core competencies are designed to facilitate this breadth of knowledge. The core competencies and minimal number of hours required in each area are listed below.

Core Competency Areas with Required Minimum Hours. Research Development and Utilization

Guid 506-4 Inferential Statistics

Guid 507-4 Multiple Regression

Rehb 588-4 Seminar in Research/Rehabilitation

Rehb 593-1 to 4 Research in Rehabilitation

Rehb 596-4 Research Design in Rehabilitation

Program Development and Evaluation

Rehb 573-2 to 3 Programming, Budgeting, and Community Resources

Rehb 575-2 Case Management and Reporting

Rehb 578-3 Program Evaluation in Rehabilitation

Rehb 582-1 to 4 Seminar in Rehabilitation Services

Rehb 587-3 Seminar in Correlates of Disabilities

Administration and Supervision

Rehb 501-2 Rehabilitation Foundations

Rehb 570-3 Rehabilitation Administration

Rehb 574-3 Staff Training/Development

Rehb 576-3 Development and Supervision of Rehabilitation Employees

Rehb 579-3 Advanced Fiscal Management in Rehabilitation

Rehb 580-2 Seminar on Community and Professional Relations

Professional Issues in Rehabilitation

Rehb 581a-2 Legal and Ethical Issues

Rehb 581b-2 Policies and Legislative Issues

Rehb 589-1 to 18 Professional Seminar in Rehabilitation

Rehabilitation Specialty Breadth Areas—12 to 18. Six hours of 500 level course work is required in each of the following areas: behavior modification, rehabilitation counseling, rehabilitation administration and services. The student's master's degree specialization may fulfill one of these requirements.

The Doctor of Rehabilitation minimally requires 96 semester hours of course work beyond the baccalaureate. Most students completing a master's degree in

rehabilitation counseling, rehabilitation administration and services, behavior modification, or related master's programs earn 45 semester hours of recorded course work. On approval of the student's doctoral committee as many as 30 of these hours may be accredited in the doctoral program. Excluded will be non-didactic hours (e.g., practica, research papers, internships, etc.) and other hours judged to be inappropriate. Thus a doctoral degree student might meet the 96 semester hour requirement post baccalaureate in the following manner.

Master's Degree Work—30

Core Competencies—23

Rehabilitation Specialty Breadth Areas—12

Electives—7

Dissertation—24

Total—96

Since the goal of the program is to produce action-oriented professionals, the student must demonstrate a breadth of competence in the areas of rehabilitation services offered by the Rehabilitation Institute. This is accomplished via the student's master's degree program, previous work experience, and the doctoral program's competency requirements in rehabilitation. Thus, recipients of the doctoral degree in rehabilitation should be relatively well prepared in leadership-type functions, permitting them to become specialists in one of the areas (e.g., a director of research and research utilization) or to function broadly as teachers or administrators.

The graduate of the Rh.D. program can thus expect employment or career mobility in public and private human service agencies and organizations, universities and colleges, medical-rehabilitation settings, business-industrial settings, and institutions.

Secondary Education

(See Curriculum, Instruction, and Media for program description.)

Sociology

The Department of Sociology offers work leading to the M.A. and Ph.D. degrees. The M.A. degree program provides students with the opportunity to acquire a solid general knowledge in sociology through survey courses and seminars and exposure to a variety of approaches characterizing the discipline. The Ph.D. program is centered around advanced offerings in the areas of sociological theory-methodology, social deviance and control, sociology of the family, sociology of science and technology, and social psychology. On the Ph.D. degree level, the department favors flexibility over a prestructured program. Students are encouraged to design an organized and sensible course of study suited to their individual needs and interests. In the development of such a curriculum students can rely on the assistance of a personal adviser and the faculty in their areas of interest. There are no specific course or research tool requirements on either the M.A. or Ph.D. degree level.

The department is committed to providing financial assistance to the thirty or so graduate students whom it usually has in residence. Type and amount of the assistance varies with the student's progress in the program. Entering students may apply for teaching or research assistantships (ca. \$450- per month for the length of the academic year). Assistantships and other stipends include a tuition waiver. Funding is restricted to two years for M.A. degree students and four years for Ph.D. degree students.

The Department of Sociology maintains ties with other departments, especially with the Center for the Study of Crime, Delinquency, and Corrections. It is also linked to the Social Science Research Bureau and supports, in conjunction with other departments, a data bank, a computer program library, and a remote entry computer terminal. These cooperative arrangements provide opportunities for practical training in research and data analysis.

The faculty of the Department of Sociology is research-oriented and supports such an orientation on the part of its Ph.D. degree students. The University offers very good research facilities. Morris Library holds some 1,800,000 volumes and subscribes to about 10,000 periodicals. It also possesses a set of the Yale Human Relations Area Files. The Information Processing Center has the latest computer facilities. It carries a variety of data analysis software including the SPSS data analysis package. The Department of Sociology has a small group laboratory with observation facilities and video-tape recording equipment.

The department attempts to counteract potential parochial tendencies among its faculty and students through appointments of visiting professors from abroad. In the past this has included scholars from England, Ireland, Poland, Rumania, and Sweden.

Currently the official journal of the Midwest Sociological Society, *The Sociological Quarterly*, is located in the department.

The Department of Sociology offers programs of graduate study leading to the Master of Arts and the Doctor of Philosophy degrees in sociology. The department ordinarily requires a grade point average of at least 3.0 for admission to the master's program and a minimum graduate grade point average of 3.5 for admission to the Doctor of Philosophy degree program. Graduate Record Examination scores on both the aptitude and the advanced (sociology) sections must be submitted with the application for admission.

Master of Arts Degree

A minimum of 30 semester hours is required for the master's degree, and the total number of hours may be taken entirely in sociology. Courses in other fields which are related to a student's program of study may, with approval of the adviser, count toward the total minimum hours.

There are no specific course requirements, but the student must pass a comprehensive written examination covering major areas of the discipline. Two of these areas, theory and methodology, are required by all students. The student must elect three additional areas from the following: social psychology; social organization; social and cultural change; the family; social disorganization, deviance, and control; and demography and ecology.

If the student fails to pass the examination or any part, the student may request re-examination appropriate to the case. Re-examination will be made at a time designated by the departmental graduate examination committee, usually no sooner than the next regularly scheduled examination period. The committee may elect to deny a request for re-examination after the student has failed twice.

A thesis or research paper is required for the degree. Up to 4 hours of individual research credit may be earned for the research paper and from 3 to 6 hours credit for thesis. The sociology master's programs should take about 4 terms of normal study to complete. Students on departmental stipends cannot expect continuance of such support beyond the second year of study at the master's level.

Students who have completed all requirements for the master's degree except the thesis or research paper may petition the academic affairs committee to be permitted to by-pass the master's degree and be admitted to the Ph.D. program.

The committee will ask the Graduate School to certify that the student's previous work is equivalent to a master's degree.

This request must be followed by a formal application to the Graduate School for admission. The petition will be given consideration only under the following conditions:

1. The student has passed all sections of the comprehensive examination on the first trial and received grades of outstanding in a majority of the sections of the examination.
2. The student has achieved a grade-point average of at least 3.5 for all graduate courses taken in sociology prior to petition.
3. The student has completed all key sociology courses in required and elective areas of the program and has not acquired an excessive number of incomplete or deferred grades in other courses.

Doctor of Philosophy Degree

Advisement. The responsibility for initial advisement rests with the departmental director of graduate studies. As soon as a tentative general plan of study has been worked out, the director of graduate studies shall, in consultation with the student, request an appropriate member of the graduate faculty of the department to serve as the student's personal adviser.

As soon as possible, the student shall, in consultation with an adviser, prepare a plan of study designating the primary and secondary areas of examination (see below). At this point, the student expresses a preference for a program committee of three or four members representing the chosen areas of examination. The committee is, with the consent of its members, formally appointed by the director of graduate studies and entered in the student's records along with his declared primary and secondary areas of examination.

Areas of Examination. All students must declare two primary areas of examination, one of which must be sociological theory-methodology, and two secondary areas of examination. For students with a special interest in theory, the department offers a maximum examination area in sociological theory-methodology, corresponding to a combination of a primary and a secondary area.

At present, the department regularly offers the following primary and secondary areas of examination: theory-methodology, deviance and social control, quantitative methods, social change, social psychology, sociology of religion, sociology of science, sociology of the family.

Social organization (focusing on the city, community, complex organization, or stratification) is also regularly open as an area of examination, but prior approval of a special study plan is required.

Other areas of examination may be offered in particular cases as student needs arise and faculty resources permit. Approval of a special area of examination must be obtained from the academic affairs committee at least one semester before the intended date of examination.

One secondary area may be chosen in any department other than sociology which offers a Ph.D. program. The student shall in this case meet the requirements for a Ph.D. secondary field in the department concerned. Relevance of the outside area to the student's total program must be demonstrated, and approval must be obtained from the academic affairs committee.

Course Work and Reading. Lectures and seminars are offered in the various fields according to the resources of the department. Guided reading and research courses are also offered according to the availability of faculty members.

In addition to the formal course work, the students are expected to qualify

themselves by independent reading in primary and secondary areas of examination. Students shall, with the assistance of the program committee, develop their own list of readings covering chosen areas of examination. As a general rule, the personal reading list shall include the most important works in each of the chosen areas. The final reading list must be approved by the program committee.

Comprehensive Examination. To qualify for the status of candidate for the Ph.D. degree, the student must pass a written comprehensive examination, which will be prepared by a special examination committee, consisting of the student's program committee supplemented as need may arise by other members of the graduate faculty in order to provide at least two readers in each of the student's areas of examination. The supplementary members of the examination committee, are, upon the recommendation of the student's program committee, appointed by the chairperson of the department graduate examination committee.

Normally, the comprehensive examination consists of a six hour examination in each of the two primary areas of examination and three hours in each of the two secondary areas. In the case of a maximum examination in theory-methodology, there will normally be a three-hour general examination and a six-hour examination in the student's chosen area of theoretical emphasis as it appears in the reading list.

The examination may, at the request of the student, be taken in two parts, each consisting of a primary and secondary area of examination. The second part of the examination must be taken during the following regular semester. Failure to do so negates all examinations previously passed.

A student who fails to pass the examination in any declared areas must be re-examined in those areas. This re-examination must be taken during the following semester. After failing twice, the student may be denied further examination by the chairperson of the department.

On successful completion of the comprehensive examination, and upon the recommendation of the director of graduate studies to the dean of the Graduate School, the student attains the status of candidate for the Ph.D. degree.

Dissertation. The responsibility for advisement of the candidate in relation to the dissertation is borne by the dissertation director, who is selected by the student in consultation with the department chairperson and approved by the dean of the Graduate School. The candidate, in consultation with the dissertation director, shall prepare a prospectus, showing the purpose and scope of the proposed research, its relation to previous work in the field, its theoretical relevance and significance, and the methods and techniques to be used. When the candidate is ready to present a prospectus, the dean of the Graduate School shall, on the recommendation of the department chairperson, approve a dissertation committee with the student's dissertation director serving as chairperson. According to the present Graduate School requirements, the dissertation committee shall consist of five members, one of whom shall be from outside the department.

The completed dissertation must be accepted by the dissertation director before being circulated among the dissertation committee members for final evaluation. A final draft must be submitted to the committee members at least two months before the date of graduation.

Oral Examination. After acceptance of the dissertation by the candidate's dissertation committee, an oral examination will be scheduled and conducted by the committee in open meeting. The examination shall be based primarily on the contents and implications of the dissertation.

Sociology as a Secondary Specialization. A student enrolled in another graduate program who wishes to declare sociology as a secondary area must submit a written request to the chairperson of the departmental academic affairs committee outlining the following:

A tentative plan of course work, a tentative personal reading list, and a tentative overall program indicating the relationship of the student's program in sociology to the total program.

The student will be expected to stand comprehensive examination in the area.

Applicants for admission to graduate study in sociology should apply in writing to the chairperson of the department. Additional information on programs may be obtained from the departmental director of graduate studies.

Interdisciplinary Program. Students who have been admitted to the doctoral program in sociology and who wish to develop an interdisciplinary program, should review the guidelines set forth by the Graduate School. The graduate dean approves interdisciplinary Ph.D. programs only when they bear the endorsement of the principal sponsoring department. A student who wishes to apply for an interdisciplinary program in which sociology will be the principal sponsoring department should understand that the program of study must include substantial involvement with courses in sociology and that the department may require the student to meet other requirements similar to those established for the doctoral program of sociology.

Special Education

The department offers programs leading to the Master of Science in Education degree in special education and to a concentration in special education for the Doctor of Philosophy degree in education.

Master of Science in Education degree

In the master's degree program, which requires a minimum of 30 semester hours for completion, four options are offered. All are designed primarily for those who are already certified to teach, and who have attained an undergraduate grade point average of at least 2.7 on a 4 point scale. Some of the options require prior certification in one area of special education as well. Students desiring entry into the program but lacking appropriate certification may complete the necessary requirements as a part of a longer master's program planned for them by their graduate adviser. Applicants with grade point averages less than 2.7 may at the discretion of the departmental faculty be admitted conditionally. They may also be required to complete all or a part of the Graduate Record Examination and to submit the results as a part of their application to the department.

There are five options open to those seeking a master's degree in special education: (1) resource teacher of the elementary age mildly handicapped, (2) teacher in self-contained classes for the severely handicapped, (3) coordinator of classes for the pre-school handicapped, (4) teacher of the gifted, and (5) secondary age mildly handicapped. Program requirements for each of these options include the following courses: Sp Ed 580-3, 517-2, 500-3, and 502-2. In addition, they require completion of the courses listed below with the explanation of each of the options.

Resource teacher of the mildly handicapped. Students choosing this option

will ordinarily enter the program with certification in at least one area of special education, and during the program will add another area of special education certification. Their training will prepare them to work as resource personnel in school programs where mildly handicapped children have been returned to regular classes, or to teach in self-contained classes for mildly handicapped in their areas of certification. In addition to the core courses, they must complete: Sp Ed 594-2; one of Sp Ed 401-3, 402-3, or 404-3; 511-3; at least one of 513-3, 515-2, or 514-3; and additional electives selected in cooperation with their graduate adviser, to a total of at least 30 semester hours.

Teacher in self-contained classes for the severely handicapped. Students choosing this option will ordinarily have been certified previously in the same area, and during the master's program may or may not add another area of certification. After completion of the program they will be prepared to work as teachers in self-contained classes for severely handicapped, to work as coordinators of classes for these children, or to coordinate the development of suitable programs for them across a long span of their school experience. In addition to the core courses, they must complete: Sp Ed 594-2; 421-3; at least one of 513-3, 515-2, or 514-3; and additional electives selected in cooperation with their graduate adviser, to a total of at least 30 semester hours.

Coordinator of classes for the pre-school handicapped. Those selecting this option will, as a rule, have completed certification requirements in at least one other area of special education, and during the program will complete requirements for certification in the pre-school handicapped area. Upon completion of the program they will be prepared to work either as classroom teachers or as program coordinators in this area. In addition to the core courses, they must complete: Sp Ed 594-2; 505-3; 511-3; and additional electives selected in cooperation with the graduate adviser to a total of at least 30 semester hours.

Teacher of the gifted. Those selecting this option will usually have completed certification requirements as an elementary or secondary teacher although not necessarily as a special education teacher. At the completion of the program, they will be prepared to work as itinerant or resource teachers for gifted children in elementary or secondary grades. In addition to the core courses, they must complete Sp Ed 594-2; and additional electives selected in cooperation with the graduate adviser to a total of at least 30 semester hours.

Secondary aged mildly handicapped. Teachers in this area will be expected to have a bachelor's in special education and have taken Special Education 400, 404, 414, and 420, or their equivalent. At the conclusion of this program the students will be qualified to teach secondary aged handicapped youths in a variety of public and private school settings. The students must successfully complete Special Education 500, 502, 516, 519, 580 and 594. In the program the student must take Guidance and Education Psychology 502, and at least nine hours from either vocational education studies, administration of justice, Rehabilitation Institute, or some combination of the above. Each student in this option must either complete the oral examination and research paper, or the thesis. No more than nine hours of credit from another institution of higher education may be transferred into this program. The students academic programs are planned in consultation with their adviser on the basis of interest and experience.

Research requirements for the master's program are as follows:

1. The student must successfully complete Sp Ed 500-3, and then Sp Ed 502-2 during which the research paper is completed.

2. The student must successfully defend the research paper in an oral examination conducted by the student's committee chairperson and two additional committee members.

A comprehensive examination over the field of special education is also required, and is conducted by the student's committee chairperson and two additional committee members.

All full-time graduate students in the department may be required to work a maximum of 5 hours per week in departmental activities as a part of their professional development.

The Doctor of Philosophy Degree in Education

A Doctor of Philosophy degree in education with a concentration in special education is offered. This program is based in the policies of the Graduate School and the College of Education.

Speech Communication

At a time when many speech communication departments are staffed by individuals representing the same school of thought, our department has a healthy diversity of outlooks and approaches. Nevertheless our diversity has not prevented the development of an exceptionally supportive interpersonal climate. While we argue about a great many issues, we are committed as colleagues to effective teaching and productive scholarship. We believe that our students share these commitments, and we are most anxious to recruit students who want to study in such an environment.

Our facilities include a superior laboratory for oral interpretation productions, the Calipre stage, computer terminal laboratory room, video tape laboratory, library and research carrells—all housed in the department. We offer graduate assistants the opportunity for independent teaching experiences as well as the usual support duties as teaching and research assistants. All graduate students are eligible for training experiences through internships in business, governmental, and political organizations.

Financial Assistance

There are several forms of financial assistance available to graduate students in the Department of Speech Communication. First, there are *graduate fellowships* awarded on the basis of superior scholarship, which do not require any departmental service. Second, there are several *special fellowships* offered annually to students who show promise of success in graduate studies even though their academic records have been only average because of economic or social disadvantages. These special fellowships have no service requirements. Third, there are *graduate assistantships* available which require up to twenty hours per week of service in teaching or research. Finally, there are *dissertation research awards* for students in their final year of work toward the Ph.D. degree.

The stipends for the above awards currently range from \$3978 to \$4230 for the nine-month academic year depending on the level of graduate study of the appointee and the type of appointment. These rates may be increased for the forthcoming year. All the appointments, fellowships, and assistantships, also include a waiver of tuition (both in-state and out-of-state) for the student. Students who hold assistantship appointments for two consecutive semesters also receive a tuition waiver for the following summer session, and a limited number of appointments pay stipends for summer assignments as well.

Applications for financial assistance may be obtained by writing to the Director of Graduate Studies, Department of Speech Communication, Southern

Illinois University at Carbondale, Carbondale, Illinois 62901. Completed applications for fellowships should be received by February 1 for appointment during the subsequent fall semester. Applications for fall semester assistantships should be received by March 1.

The Department of Speech Communication offers three graduate programs of instruction and research in the discipline of human communication leading respectively to the Master of Arts, Master of Science, and Doctor of Philosophy degrees.

Curriculum. The graduate faculty of the department offers a core of courses in communication theory and methodology as well as course work in the following areas of human communication: communication education, creative dramatics, interpersonal and small group communication, language behavior and intercultural communication, oral interpretation, organizational communication and public relations, phenomenology and philosophy of communication, political communication, rhetoric and public address, semiology, and (at the doctoral level) theater.

Admissions. Applicants must meet the minimum requirements of the Graduate School and should have completed a minimum of 24 quarter or 16 semester credit hours in speech or related subjects. A program for remedying deficiencies in background can be arranged upon petition to the graduate committee of the Department of Speech Communication.

Application for admission to graduate studies in speech communication should be directed to the Graduate School. For admission to the Graduate School, GRE Aptitude Test or Miller Analogies Test scores must be submitted before a student enters the program or during a student's first term in residence. G. CS 56 OFFor MAT scores are used as supporting evidence in the consideration of applications for admission to the department. Except for persons from English-speaking countries, international students are required by the department to have a TOEFL score of 600 or higher for admission. In addition to materials sent to the Graduate School, each applicant should submit to the Department of Speech Communication three recommendations from former instructors and an application form indicating professional and personal objectives. The official application forms for the supporting materials requested by the department may be obtained from the chairperson of the graduate committee of the Department of Speech Communication. In addition, applicants for the Ph.D. degree program may be requested to furnish a thesis or research paper as evidence of research and writing ability.

Acceptance for graduate study in speech communication and subsequent continuation in the graduate program is determined by the graduate committee of the Department of Speech Communication. Students who are awarded graduate assistantships to provide assistance in the instruction of the department are required to take Speech 539 if they have not had previous teaching experience at the secondary, college, or university level; the course is strongly recommended for all students planning careers in university teaching. Because of the research emphasis at the graduate level in the Department of Speech Communication, students may be required to purchase additional textbooks or materials.

Research Style. In most cases graduate students are required to write a term research paper for each course taken; and, depending on the degree program, each student is required to write a research report, thesis, or dissertation. In all cases the writing must conform to the latest edition of *The MLA Handbook* or the *APA Publication Manual*, depending on the nature of the research. In all

cases the writing must conform to the current edition of the Graduate School *Guidelines for the Preparation of Research Reports, Theses, and Dissertations*.

Proficiency Examination. A student who has previously had course work that is required in the "Communication Theory and Methodology" curriculum area may petition the graduate committee of the Department of Speech Communication for a waiver of all or part of the course requirements. When a student submits such a petition, the director of graduate studies will appoint a special committee to administer a written examination and certify the results to the graduate committee of the department.

Master's Degree Programs

A minimum of 30 semester credit hours is required for the M.A. or M.S. degree. At least 15 of these hours must be at the 500 level. A student who completes only the minimum of 30 hours of work may devote no more than 9 hours to work outside the Department of Speech Communication. However, a student may petition the graduate committee for a program to include 15 hours outside the department. Such outside work must be germane to one of the departmental curriculum areas for purposes of research and examination. Competence in one foreign language is required for the M.A. degree. Competence may be demonstrated by (1) E.T.S. examination, (2) achieving a grade of *B* or *A* in French 488, German 488, Russian 488b, or Spanish 488b, or (3) achieving a *PASS* grade in French 410, German 416, Russian 411, or Spanish 412. Current standards for passing the E.T.S. examination in French, German, Russian, or Spanish are available from the director of graduate studies.

A faculty adviser is named for the individual student before the end of the first semester. The faculty adviser and the student will plan the program of study. The program must consist of course work in at least two, but not more than four, of the curriculum areas. All students selecting theater as a curriculum area must complete three of the curriculum areas. In order to satisfy a given area of study, a student must complete at least 9 semester hours of work in that area, 3 hours of which must be at the 500 level (this requirement is waived in the case where such a 500 level course does not exist). A course used for one curriculum area may not be counted toward another area. All master's students planning to study for a Ph.D. degree should select the communication theory and methodology as one curriculum area.

The requirements for the master's degree may be met by either of the following plans chosen by the student in consultation with the adviser.

Plan 1: Thesis. Each student must complete a minimum of 30 semester credit hours, with no more than 6 hours or fewer than 3 hours of thesis credit in Speech 599 counted toward the 30 hour minimum. In addition, the student must register for at least one semester hour of credit in Speech 599 during any academic term in which the services of any faculty member are utilized in the supervision of or consultation concerning the thesis. If the student's reliance upon faculty assistance justifies, the director may require an appropriately greater number of credit hours in Speech 599. The thesis is submitted to a committee of three members of the graduate faculty, at least two of whom must be from the Department of Speech Communication. The committee must approve the prospectus and will administer an oral or written examination over course work taken. Students are required to submit two copies of the thesis to the Graduate School, one copy to the Department of Speech Communication, and one copy to the thesis director.

Plan 2: Research Report. Each student must complete a minimum of 30

semester credit hours, with at least one and no more than 3 hours of research report credit in Speech 595 counted toward the 30 hours minimum. A research report is submitted as evidence of knowledge of research techniques. This paper should be based on a special project or specific courses as recommended by an advisory committee composed of the student's adviser and one other member of the graduate faculty in the Department of Speech Communication selected by the student and the adviser. This advisory committee must approve the research paper before it is submitted to the graduate committee and, then, to the Graduate School. One copy of the research report is submitted to the Graduate School, one copy to the Department of Speech Communication, and one copy to the adviser. A comprehensive written examination is taken over the course work.

The subject of the thesis or research report must be in one of the curriculum areas chosen by the student. A student must have a graduate grade point average of 3.25 in order to be eligible for the master's degree. Students planning to pursue a doctoral degree upon completion of the master's degree are often advised to select Plan 1: Thesis, since some universities view Plan 2: Research Report, as a terminal degree.

Doctor of Philosophy Degree

A minimum of 42 semester credit hours of course work beyond the master's degree and 24 semester credit hours of dissertation work are required for the Ph.D. degree. A student who completes only the minimum of 42 hours of course work may devote no more than 21 hours to course work outside the department. Such outside work must be germane to one of the departmental curriculum areas for purposes of examination and dissertation research. Throughout the program of study, the student must maintain a 3.25 grade point average in all work taken. If the grade point average drops below the minimum, the student is placed on academic warning for the following two semesters.

During the last half of the second semester of course work, the student's progress shall be reviewed by the graduate committee to determine continuation, change, or termination of the program. The advisory committee for each student shall be responsible for assembling the necessary information (grades, recommendations, progress in curriculum areas, etc.) for consideration in reaching the above decision.

Advisory Committee. An advisory committee shall be established during the first semester of graduate study to plan the program of study with each student. The committee shall be composed of one faculty member from each curriculum area chosen by the student. The chairperson of the committee shall act as the primary adviser and sign the graduate course request form. This advisory committee is responsible for certifying to the graduate committee that the student has met all departmental requirements for admission to candidacy and has passed the Ph.D. preliminary examination.

Program of Study. The advisory committee and the student will plan the program of study. The program of study must consist of course work in at least two, but not more than four, of the curriculum areas. In order to satisfy a given area of study, a student must complete at least 12 semester credit hours of course work in that curriculum area, 3 hours of which must be at the 500 level (this requirement is waived in the case where such a 500 level does not exist). A course utilized for one curriculum area may not be counted as part of another area. All students are required to select communication theory and methodology as one curriculum area. The communication theory and methodology area consists of the following requirements:

1. Spch 501-3 Introduction to Speech Communication Research. (Theater students may substitute Thea 500-3 Introduction to Research Methods and Thea 530-1 to 12 Independent Study.)
2. Spch 401-3 Communication Theories and Models, or Spch 510-3 Seminar: Rhetoric and Communication.
3. Three credit hours selected from:
 - Spch 502-3 Seminar: Quantitative Communication Research.
 - Spch 503-3 Seminar: Phenomenological Communication Research. Spch 572-3 Critical Perspectives in Interpretation.
4. Four semesters of Spch 598 Proseminar in Human Communication. As a non-credit course, a grade of Satisfactory *S* or Unsatisfactory *U* will be assigned on the basis of attendance and participation.
5. Six semester hours at the 400 and/or 500 levels, in or outside the department. These may include courses required as prerequisites to courses in 3 above and/or selection of courses in 2 and 3 above as long as these are not counted as courses meeting other area requirements.

Preliminary Examination. The student must pass a preliminary examination on each of the declared curriculum areas in the program of study. The preparation and administration of the examination are determined by the advisory committee in consultation with the student. The examination is taken near the end of the degree program. The examination will call for demonstrated theoretical competence in the particular methodology selected by the student as part of the communication theory and methodology area. In the case of a foreign language, an E.T.S. examination may be substituted for the departmental examination by petition to the graduate committee of the Department of Speech Communication. In the case of a foreign language one of the following may be substituted for the departmental examination by petition to the graduate committee of the Department of Speech Communication: (1) E.T.S. examination, or (2) achieving a grade of *B* or *A* in French 488, German 488, or Russian 488b, or Spanish 488b, or (3) achieving a *PASS* grade in French 410, German 416, Russian 411, or Spanish 412. Current standards for passing the E.T.S. examination are available from the director of graduate studies.

Dissertation. Each student must register for at least 24 semester hours of dissertation credit in Spch 600 or Thea 600. In addition, the student must register for at least one semester hour of credit in Spch 600 or Thea 600 during any academic term in which the services of any faculty member are utilized in the supervision of or consultation concerning the dissertation. If the students' reliance upon faculty assistance justifies, they may be required by the dissertation adviser to register for an appropriately greater number of credit hours in Spch 600 or Thea 600.

The dissertation director shall, upon consultation with the student, be responsible for setting up a dissertation committee, supervising the dissertation and administering the final oral examination. The dissertation committee shall approve the dissertation prospectus and pass upon the completed dissertation and oral examination. Students are required to submit two copies of the dissertation to the Graduate School, one copy to the Department of Speech Communication, and one copy to the dissertation director.

Interdisciplinary Program. Students who have been admitted to the doctoral program in speech communication and who wish to develop an interdisciplinary program, should review the guidelines set forth by the Graduate School. The graduate dean approves interdisciplinary Ph.D. programs only when they bear the endorsement of the principal sponsoring department. A student who

wishes to apply for an interdisciplinary program in which speech communication will be the principal sponsoring department should understand that the program of study must include substantial involvement with courses in speech communication and that the department may require the student to meet other requirements similar to those established for the doctoral program in speech communication.

Theater

The Department of Theater blends scholarship and practical experience into an academically sound unit of study and practice. Through the department's dramatic production schedule a variety of learning experience is offered. The practical experience is augmented by training courses in the theater arts and complemented by courses of study in theory and criticism in all areas of theater. The Department of Theater maintains two theaters for public productions. The University Theater has a proscenium stage with a modified thrust and seats 568. The Laboratory Theater has a flexible stage and seats up to 110 persons.

The Department of Theater offers programs of study leading to the Master of Arts and the Master of Fine Arts degrees in theater. Doctoral studies in theater are sponsored by the Department of Speech Communication. Interested students should consult the description of this program under speech communication.

Master's level studies in theater offer the following areas: acting, acting-directing, scenic/costume design and technical direction, playwriting, history, and criticism. All students enrolled in degree programs are expected to select one of these areas as one of special interest and to demonstrate competency in it.

Admission

Application for admission to graduate study in theater should be directed to the Graduate School. Supporting materials for the application should be sent to the director of graduate studies in the theater department. These materials consist of (1) a personal and professional data form, and (2) three letters of recommendation from former teachers or supervisors. The official forms for these materials may be obtained from the director of graduate studies, Department of Theater. Applications and supporting materials should be submitted at least eight weeks prior to the beginning of the semester in which the student expects to begin study.

An undergraduate major in theater is not essential for admission to a graduate degree program in theater. A student with an undergraduate major in another area may audit undergraduate courses in theater to make up any deficiencies.

Departmental processing of applications for acceptance as a graduate student in theater is the responsibility of the department's graduate adviser, who serves as adviser for all graduate students until such time as a faculty adviser or committee is named for the individual student, which is usually done not later than the middle of the first semester in residence.

Graduate students are urged to supplement their class work with practical experience in acting and production.

Master of Arts Degree

The Master of Arts degree in theater is primarily an academic degree with an emphasis in history, theory, and criticism.

Departmental requirements for admission are in addition to those of the

Graduate School. The department will ordinarily accept as candidates for the master's degree only those applicants who: (1) have graduated from an accredited four-year college or university; (2) have completed a minimum of 24 quarter or 16 semester hours in the field of theater or speech communication; (3) have a 2.7 (4 point scale) overall grade point average, or alternatively, a 2.9 overall grade point average for the last two years of undergraduate work; and (4) have a 3.0 overall average in theater or speech communication. Applicants who do not meet these minimal requirements or their equivalent, but who do meet the minimum standards of the Graduate School, can be considered for acceptance only on petition to the department's graduate adviser which, if granted, will be accompanied by a statement specifying the special conditions or requirements of admission.

A minimum of 30 semester hours of credit, including 15 hours at the 500 level, constitutes the basic hour requirement for the Master of Arts degree. Core, area, elective, and thesis requirements are as follows:

Core- 5 hours

Theater 400a, 500, 501

Area- 8 to 9 hours

Theater 504, 505, 526B, 500 (select 3)

Electives (by advisement)- 10 to 11 hours

Thesis- 6 hours

Total- 30 hours

A student must maintain an overall 3.0 (4 point scale) grade point average in order to be eligible for the Master of Arts degree. In addition, students must demonstrate proficiency in language or complete a research-tool project relevant to either (1) professional skills (acting, directing, playwrighting, etc.) or (2) a research area in a specialized interest.

The topic of the thesis is chosen in consultation with the candidate's committee chairperson at the earliest practical time. The final oral examination will cover the thesis and the major area in which it was written, and may also test the candidate's general competence in the field of theater.

The Master of Fine Arts

The Master of Fine Arts degree in theater is a preparation for professional theater work. The emphasis is on practical expertise in one of the following four areas: acting, acting-directing, design (scene/technical or costume), playwrighting.

Applicants should have a broad undergraduate background in theater. While the department's requirements for admission to graduate degree programs coincide with those of the Graduate School there are, in addition, special admissions requirements established by each of the four areas of study in the M.F.A. program.

Applicants in the acting and the acting-directing areas are required to audition for the program. Applicants in the design area are required to submit samples of their work. It is strongly suggested that applicants in the playwrighting area also submit examples of their work. More information about these requirements can be obtained from the director of graduate studies, Department of Theater.

All M.F.A. students must complete a minimum of 48 hours of courses including the M.F.A. core requirements which are as follows:

Theater 400a,b- 2 hours

Theater 500, 501- 4 hours

(Basic course in area)- 3 hours

Total M.F.A. Core- 9 hours

In addition, each of the four areas of study has specific area and elective requirements which are as follows:

Acting.

M.F.A. Core (including 417a)- 9 hours

Area requirements- 31 hours

Theater 417b, 517a,b- 9 hours

Theater 403a,b, 503a,b- 8 hours

Theater 413a,b, 513a,b- 8 hours

Theater 526a- 3 hours

Theater 599- 3 hours

Electives- 8 hours

Total- 48 hours

Acting-Directing.

M.F.A. Core (including 417a)- 9 hours

Area requirements- 37 hours

Theater 417b,517a,b- 9 hours

Theater 403a,b, 503a,b- 8 hours

Theater 413a,b, 513a,b,- 8 hours

Theater 402a,b, 502- 9 hours

Theater 599- 3 hours

Electives- 2 hours

Total- 48 hours

Design. (separate concentrations in scene/technical and costume)

M.F.A. Core (including one of: 407,414,418)- 9 hours

Area requirements- 12 hours

Theater 407,414, 418 (those not in Core)- 6 hours

Theater 599- 6 hours

Scene/Technical, Costume, and Electives (by advisement)- 27 hours

Total- 48 hours

Playwriting.

M.F.A. Core (including 411a)- 9 hours

Area requirements- 27 hours

Theater 402a or b- 3 hours

Theater 411b, 511- 6 hours

Theater 504, 505, 526b- 9 hours

Theater 530- 3 hours

Theater 599- 6 hours

Electives (by advisement)15 hours

Total- 51 hours

Thesis requirements vary for each area of study. Some require practical projects accompanied by written research and evaluation while others require only written work.

In most instances, a minimum 2-year residency is required of all M.F.A. students.

Vocational Education Studies

The Department of Vocational Education Studies offers three programs (business education, home economics education, and occupational education) and cooperates with the Department of Agricultural Education and Mechanization in offering a concentration in agricultural education. The programs are described below.

BUSINESS EDUCATION

Graduate courses in vocational education studies and business education may be taken as a major or minor leading to the Master of Science in Education degree in business education.

Admission to the program must be approved by the faculty of business education, in the Department of Vocational Education Studies with approval dependent upon the preparation, ability, and promise of the individual student. For the Master of Science in Education degree, there are no formal admission requirements beyond those of the Graduate School.

The graduate program is planned for those students who have an adequate subject-matter background in at least one of the following business teaching areas: (1) secretarial, (2) general business or consumer education, (3) book-keeping and accounting, (4) distributive education, or (5) data processing. Deficiencies in background, if any, must be eliminated by taking appropriate courses.

Master's Degree

The program is aimed at upgrading and making more proficient those individuals who have already met or surpassed the minimum requirements for teaching business subjects in the high school, community college, or other type of educational institution offering business education curricula.

The major consists of a minimum of 30 semester hours of course work distributed as follows:

1. Twelve or more hours in vocational education studies and business education courses (including thesis), such as: improvement of instruction in the secretarial subjects, teaching distributive education, teaching consumer education, principles and problems of business education, research in vocational, occupational, and career education, and organization and administration of cooperative vocational business education. A minimum of two of the following courses is required: VES 561, VES 566, VES 511, VES 512. Four-hundred level courses taken for undergraduate credit cannot be taken again for graduate credit.
2. Six or more hours in business or economics courses offered by departments in the College of Business and Administration, or by the Department of Economics, or in the concentration of business education in the Department of Vocational Education Studies.
3. Eight or more hours in courses not generally considered to be business education.

Each student's program is tailored to meet the particular needs and interests, within the general requirements of the Graduate School.

In keeping with the general requirements of the Graduate School, each student is required to conduct an investigation and write a thesis or a research report. Those who have special interest and ability in research or who expect to go on to advanced graduate study are encouraged to write a thesis.

The thesis may be counted for not more than six nor less than three semester hours of credit. Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to the date of graduation, to be bound and shelved in the library. For nonthesis programs, a research paper should show evidence of the student's knowledge of research techniques and should be based on a special project.

The passing of a final written examination is required at the end of the program. The examination is given each April and July. Broad, essay-type questions are asked that require the student to apply the knowledge acquired

in solving realistic problems. Each student selects four of the following areas to be included in the examination, writing on each area from forty to sixty minutes: (1) teaching typewriting, (2) teaching shorthand and transcription, (3) teaching bookkeeping and accounting, (4) teaching office practice and machines, (5) teaching general or basic business and consumer education, (6) teaching distributive education, (7) teaching data processing, (8) vocational business education, (9) office management, (10) records administration, (11) principles and problems of business education, (12) research in business education, (13) tests and measurements in business education, (14) administration and supervision of business education.

Fellowships and teaching assistantships are available to qualified graduate students. All carry stipends and remission of tuition. Applications for these awards should be submitted by February 1.

Additional information concerning the graduate program in business education may be obtained by writing to the program coordinator of business education in the Department of Vocational Education Studies.

HOME ECONOMICS EDUCATION

Graduate programs in home economics education in the Department of Vocational Educational Studies are designed to prepare persons to qualify for the following types of positions:

- a. High school teaching, including supervision of student teachers in home economics.
- b. Teacher education in colleges and universities.
- c. City, state, or similar supervisory positions.
- d. Directing or teaching of adult programs of home economics.
- e. Teaching or coordinating occupational education programs.
- f. Junior college teaching.

These programs also meet the needs of those who desire to go into teacher training, state supervision, vocational education, or cooperative extension work. All students are encouraged to supplement their courses in home economics education with preparation in related areas and general professional education.

In addition, a student enrolled in a program leading to the Ph.D. degree in education with a concentration in secondary education, higher education, or occupational education may select the elective portion of the program from graduate courses offered in the program of home economics education in the Department of Vocational Education Studies.

Program Requirements for Admission

- a. Admission to the Graduate School.
- b. A bachelor's degree from an accredited college, with a major or its equivalent in home economics education. Under certain circumstances a student without sufficient background in home economics education and education may be admitted with the approval of the adviser and allowed to make up undergraduate deficiencies concurrently with graduate study. Courses taken to correct undergraduate deficiencies will not apply to minimum requirements for the degree.

Program Requirements for the Degree

- a. The Master of Science in Education degree in home economics education requires a minimum of 30 semester hours of graduate credit. Twenty to twenty-two hours in home economics education and vocational education studies courses are required for all students. The additional hours required will be

selected in terms of the candidate's vocational objectives from one or more related fields such as: education, anthropology, art, psychology, and sociology.

b. Required courses for all students in the home economics education program are: Guidance 502, introduction to statistical methods; Vocational Education Studies 561, methods of research, or equivalent.

c. All students are expected to evidence competency in the areas of curriculum, methodology, evaluation, and philosophy. High school teachers wishing to qualify as supervising teachers in student teaching centers should include VES 522 in their programs.

d. Students preparing for positions listed in b and c above will include VES 522 and when possible 597, the practicum in supervision. Such students will, in addition to the home economics education requirements, include a minimum of 6 hours of related work from the field of education.

e. Students preparing for work in occupational education programs include VES 466, principles and philosophy of vocational-technical education; VES 525, vocational cooperative education; a work experience practicum; and other courses as needed to provide sufficient skill background. Two thousand hours of work experience in home economics related occupations are required for full approval for vocational coordinator positions.

f. Students preparing for junior college teaching should take HIEd 526, the community junior college; VES 466, principles and philosophy of vocational-technical education; and subject matter courses in two or more areas of home economics. An internship program is available for qualified students.

OCCUPATIONAL EDUCATION

Programs leading to the Master of Science in Education degree and the Master of Science degree in occupational education and to a concentration in occupational education for the Doctor of Philosophy degree in education are offered through the Department of Vocational Education Studies. Each program is individually tailored by the student's advisory committee to meet the student's career objectives.

Students with degrees in education, science, technology, or other specialties may qualify for advanced study which involves technical subjects, study in work situations and educational institutions, and internship in teaching, research, or other professional assignments.

Programs of study are developed by the student and the adviser depending upon interests, and career goals. Programs are flexible, and course work may be done in other units of the University. The student is advised to prepare for one major area of study; no minor is required. Some areas of study are: teacher of industrial oriented health, or personal and public service occupations; industrial arts; coordinator of cooperative occupational education; and supervisor, director, or administrator of programs in secondary, area vocational, community junior colleges, industry, or other vocational-technical or occupational systems.

Teaching or research assistantships, and fellowships are available to qualified applicants. Additional information about programs, courses, assistantships, and fellowships may be obtained from the coordinator of graduate studies in occupational education in the Department of Vocational Education Studies.

Master of Science in Education Degree

The Department of Vocational Education Studies offers the Master of Science in Education degree in occupational education to students who desire to develop applied competencies in one of the occupational or vocational-technical

concentrations. This degree requires a minimum of 30 hours, including 2-6 hours of research paper.

Requirements. Other requirements include:

1. Completion of a minimum of 16 hours in occupational education and vocational education studies with the following courses required: VES 466-3, VES 561-3, VES 562-3, and VES 574-3.
2. An individually designed program of studies approved by the student's advisory committee before completion of 8 hours of the credit applied to this degree.
3. A research paper which meets guidelines of the Graduate School and has the approval of the student's graduate adviser.
4. Copy of draft research paper must be submitted to the student's adviser 6 weeks before graduation.

Master of Science Degree

This degree specialization is offered to the student who desires to develop research oriented competencies in the study of occupational education such as the construction and testing of teacher-learning equipment, physical measurement problems, curriculum development, and evaluation. Each candidate for the Master of Science degree is required to complete 32 hours of graduate credit and to submit an approved thesis.

Requirements. Other requirements include:

1. Complete a minimum of 20 hours in vocational education studies and occupational education. Required courses are: VES 466-3, VES 561-3, VES 562-3, VES 574-3, and 2-6 hours of VES 599.
2. An individually designed program of studies approved by the student's advisory committee before completion of 8 hours of the credit applied to this degree.
3. Required research competency such as statistics, computer programming, or other research methodology as approved by the student's advisory committee.
4. Nine to 12 hours in a concentration selected to strengthen the student's expertise in the thesis topic area. Selection of courses must be approved in advance by the student's advisory committee.
5. Advisory committee approval of thesis topic and proposal no less than 4 months in advance of graduation.
6. Copies of draft thesis must be submitted to the student's advisory committee 6 weeks before graduation.

Zoology

The Department of Zoology's teaching and research programs are supported by appropriate courses, equipment, and facilities in a modern life science building. Available are an electron microscope complex, a centralized animal holding unit, a variety of sophisticated computer facilities, shops for design and construction of research equipment, Morris Library with approximately 1.8 million volumes, specialized research laboratories, and significant research collections. In proximity to the central campus are experimental ponds, wildlife enclosures, and natural laboratories. The Cooperative Fisheries and Wildlife Research laboratories, closely allied with the Department of Zoology, make important contributions to research facilities and research appointments for graduate students. The geographic location, physiographic features, and pre-

vailing land use practices of southern Illinois and adjacent states offer unequalled opportunities for the use of natural and man-made environments in teaching and research. Of special value are the numerous refuges and parks, a national forest, large acreages of surface-mined lands, and a variety of streams and lakes. The Department of Zoology offers the Master of Arts, Master of Science, and the Doctor of Philosophy degrees. These degrees are awarded on the basis of demonstrated scholarship and the ability to organize, conduct, and report original research. Opportunities are available for experience in teaching and research.

Admission

Applicants for all graduate degrees must fulfill the requirements of the Graduate School.

Applicants for the master's degree must possess the following academic background: 24 semester hours in courses covering the basic principles of zoology; one year of college chemistry (organic or biochemistry is also desirable); one year of college mathematics including college algebra and trigonometry (calculus and statistics are desirable). A grade point average of 2.70 ($A = 4.0$) or above. Applicants with less than 2.70 will be considered on individual merit.

Applicants for the doctoral degree must demonstrate a sound background of academic training in the animal sciences; hold a master's degree or its equivalent and have a grade point average in graduate work of 3.25 (where $A = 4.0$) or above.

Inquiries should be directed to the director of graduate studies in zoology. Separate applications must be made to the Graduate School and to the Department of Zoology. A completed departmental application for admission includes: departmental application form, transcript of all previous college credits, scores from the aptitude test of the Graduate Record Examination and three letters of evaluation relative to professional and academic competence. All applicants will be notified of the action taken on their application by the director of graduate studies in zoology.

Advisement

Following admission to the department, and prior to registration, a student should consult appropriate faculty (representing student's area of interest) or the director of graduate studies in zoology for assistance in registration. Each student must arrange with a faculty member to serve as an adviser no later than the end of the first semester of registration in the program. A change in the adviser will be coordinated by the director of graduate studies in zoology at the request of the student and with the approval of the current and prospective professors.

Following selection and approval of an adviser, an advisory and research committee is to be recommended to the director of graduate studies in zoology for approval by the graduate dean. For the master's degree, the committee shall consist of a minimum of three members, one of whom may be from outside the department, with the adviser serving as chairperson.

For the doctoral degree the advisory and research committee shall consist of five faculty members, one of whom must be from outside of the department. The adviser shall serve as chairperson.

A program of course work and research tools as required must be approved by the advisory and research committee, and made a part of the student's departmental file no later than the first week of the second semester of registration in the program.

A research plan approved by the student's advisory and research committee

must be placed in the student's departmental file prior to registration for Zoology 598 (when 598 is used as part of the M.S. requirement), 599, or 600 no later than the end of the second semester of registration in the program.

While pursuing the completion of degree requirements, continuous registration is expected until such time as the degree has been completed. The number of hours required per session will reflect the extent of the demand for use of time and/or university-department facilities and academic personnel.

Academic Credit

Audited courses may not be counted toward completion of minimum hour requirements toward the degree. No course with a grade below *C* will fulfill minimal requirements of the degree. A petition for the use of transfer credits must be approved by the student's advisory and research committee and submitted to the director of graduate studies in zoology for forwarding to the dean of the Graduate School for approval.

Master of Arts Degree

A minimum of 30 hours of graduate credit is required beyond the bachelor's degree including at least 18 hours of formal course work in zoology and 6 hours of Zoology 599.

In addition, one of the following tools is required: a foreign language either by completion of FL 488 with a grade of *A* or *B* or a score of at least 465 on the ETS proficiency exam, or two semesters of one of the following: statistics, computer science, mathematics, biochemistry, or biotechnology.

A thesis embodying results and analysis of original research and a final examination are required.

Master of Science Degree

A minimum of 38 hours of graduate credit is required beyond the bachelor's degree including at least 24 hours of formal course work in zoology, and 2 hours of Zoology 598. A research paper demonstrating the ability of the student to collect and analyze data and report results in a scientific manner is required. A library research problem is acceptable but must include an original contribution in the form of correlations and interpretations. A final examination is required.

Required Level of Performance in Master's Program. A cumulative grade point average of at least 3.0 must be attained during the first two semesters in all graduate level work, and must be maintained thereafter. Failure to meet this requirement will result in loss of any financial support provided by the department. A grade of *C* or better must be earned in all background (undergraduate) courses to remove deficiencies.

Final Examination.

1. Each candidate for a master's degree is required to pass a final examination. The examination will be oral and should be taken no later than three weeks before graduation.
2. The examination consists of two parts:
 - a. Presentation of the results of the research in a seminar.
 - b. A closed session of inquiry by the student's advisory and research committee following the seminar.

Graduation. Candidates for a master's degree must follow and fulfill all Graduate School procedures and requirements for processing one's application for graduation.

The Ph.D. Degree

No minimal number of credit hours is required for the degree. A student in consultation with an adviser prepares a program of study including courses in the major, in the minor, in areas of deficiency, and to complete the research tool requirement. This program when approved by the student's advisory and research committee is filed with the director of graduate studies in zoology.

Acceptable tools include foreign language, statistics, computer science, mathematics, biochemistry, and biotechnology. Normally two tools are required; however, one tool with exceptional expertise may satisfy the requirement if approved by the student's committee (exception: English as a second language). A student may qualify in a foreign language by completion of FL 488 with a grade of *A* or *B* or a score of at least 465 on the ETS proficiency exam. To qualify in statistics, a student must have course work through multiple regression analysis, which is Guidance 506 and 507. In computer science a student should take Computer Science 202 and one of the following: 204 or 470. For the tool requirements in mathematics, biochemistry, and biotechnology, the student will arrange a program of two or three courses acceptable to the advisory committee. Previously acquired skills or knowledge may satisfy the tool requirement if the student passes an appropriate proficiency examination.

A 3.25 grade point average in graduate level course work must be maintained; failure to meet this requirement will result in loss of any financial support provided by the department. A minimum grade point average of 3.00 *B* is required for all course work. No course in which the grade is below *C* is acceptable for credit.

Preliminary Examinations. These examinations (oral and written) are taken after the tool requirement and a major portion (approximately 80 percent) formal course work are completed, usually at the end of the second year of graduate study. The student with the approval of the adviser, advisory committee, and the director of graduate studies in zoology registers with the chairperson of the preliminary examination committee to take the examination. The written examination covers the general principles and concepts in zoology, and the oral portion emphasizes the area of specialization and minor.

Dissertation. The nature of the research to be used for the dissertation is established in consultation with the student's adviser, and is approved by the advisory and research committee. An approved copy of the research proposal is filed with the director of graduate studies in zoology. The student is required to register for a minimum of 24 semester hours in Zoology 600, Dissertation Research. The dissertation is evaluated by the student's advisory and research committee, reviewed for approval by the chairperson and forwarded to the graduate dean for final approval.

Final Examination. Upon approval of the dissertation by the student's advisory and research committee, the candidate requests the director of graduate studies in zoology to schedule a seminar. Following the seminar, a final examination over the dissertation is conducted by the student's committee. Both the seminar and examination are open to the public.

Graduation. Candidates for a Ph.D. degree must follow and fulfill all Graduate School procedures and requirements for processing one's application for graduation.

3 Course Descriptions

In this chapter all 400- and 500-level courses offered by Southern Illinois University at Carbondale are described. Courses are listed numerically within each subject-matter area. Areas are listed below in order of their appearance on the following pages.

- Administration of Justice
- Agribusiness Economics
- Agricultural Education and Mechanization
- Agriculture
- Animal Industries
- Anthropology
- Art
- Biology
- Botany
- Business Administration
 - Accountancy
 - Administrative Sciences
 - Finance
 - Marketing
- Chemistry and Biochemistry
- Cinema and Photography
- Communication Disorders and Sciences
- Communications and Fine Arts
- Comprehensive Planning and Design, Division of
 - Clothing and Textiles
 - Design
 - Environmental Design
 - Interior Design
- Computer Science
- Curriculum, Instruction, and Media
- Economics
- Education
- Educational Leadership
- Engineering
 - Electrical Sciences and Systems Engineering
 - Engineering Mechanics and Materials
 - Thermal and Environmental Engineering
- Engineering Biophysics
- Engineering Technology
- English
- Foreign Languages and Literatures
 - Chinese
 - Classics
 - French
 - German
 - Japanese
 - Russian
 - Spanish
- Forestry
- Geography
- Geology
- Guidance and Educational Psychology
- Health Education
- Higher Education
- History
- Human Development, Division of
 - Child and Family
 - Family Economics and Management
 - Food and Nutrition
- Industrial Technology
- Journalism
- Linguistics
- Mathematics
- Medical Education Preparation
- Microbiology
- Mining Engineering
- Molecular Science
- Music
- Philosophy
- Physical Education
- Physics and Astronomy
- Physiology
- Plant and Soil Science
- Political Science
- Psychology
- Public Visual Communications
- Radio-Television
- Recreation
- Rehabilitation
- Religious Studies
- Science
- Social and Community Services, Division of
 - Black American Studies
 - Community Development
 - Social Welfare
- Sociology
- Special Education
- Speech Communication
- Statistics
- Theater
- Vocational Education Studies
- Zoology

The first entry for each course is a three-digit identification numeral. Courses numbered 400-499 are open to both seniors and graduate students, unless designated otherwise. Courses numbered above 499 are for graduate students only.

Following the course identification number is another number which indicates maximum credit allowed for the course. The maximum may vary, and specific semester hours may be assigned for each term a course is offered.

Following the course description may be prerequisites which must be satisfied before a student will be permitted to enroll. Graduate students will not receive graduate credit for Pass/Fail grades. They may not register for 400-level courses in which Pass-Fail grading is mandatory and may not receive a grade of *Pass* or *Fail* in 400-level courses graded Pass/Fail on an elective basis. Graduate credit is awarded for 500-level courses which have been approved to be graded *S/U* (Satisfactory/Unsatisfactory) only.

Graduate students at Southern Illinois University at Carbondale are required to purchase textbooks, instructional materials, and supplies needed for each course. Field trips are required for certain courses.

All courses offered in a specific term will be listed in the appropriate Schedule of Classes, published three times a year by University Graphics, Southern Illinois University at Carbondale, Illinois 62901.

Accountancy

421-3 Advanced Accounting. Accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, fiduciaries, international operations, branches, and business combinations. Prerequisite: 322 with a grade of *C* or better.

422-3 Current Developments in Accounting Theory. Critical analysis of current developments in accounting theory, especially as reflected in the publications of major accounting associations. Prerequisite: 322 with a grade of *C* or better.

431-3 Advanced Cost Accounting. Managerial decision making; profit planning and control through relevant costing, return on investment and transfer pricing, determination of cost behavior patterns, analysis of variances, capital budgeting, inventory models, probabilities, statistical methods, and operations research. Prerequisite: 331 with a grade of *C* or better.

441-3 Advanced Tax. Study of income tax problems which arise from sole proprietorship, partnership, corporation, estate, and trust types of organization. Brief study of social security, federal and state estate tax, and gift tax. Student does research in source materials in arriving at solutions of complicated problems. Prerequisite: 341 with a grade of *C* or better.

451-3 Advanced Accounting Informations Systems. A review of current systems design and operation methodologies with special attention to the advantages and disadvantages these provide to an integrated information system. Prerequisite: 351 with a grade of *C* or better.

461-3 Advanced Auditing. The study and application of selected auditing concepts and techniques. Hands on applications will be emphasized. Prerequisite: 361 with a grade of *C* or better.

471-3 Accounting for Public Organizations. Financial and managerial accounting concepts peculiar to the planning and administration of public and quasi-public organizations, such as governmental units, institutions, and charitable organizations. Includes the conventional budgetary-appropriation process, as well as some of the more recent accounting developments related to public decision making. Prerequisite: 230 with a grade of *C* or better.

491-1 to 6 Independent Study in Accountancy. Independent study of specialized aspects of accountancy not available through regularly scheduled courses. Prerequisite: a grade of *C* or better in each of 322, 331, 341, and consent of department.

492-3 Professional Dimensions of Accountancy. This course is designed to aid the accounting student in identifying and understanding the necessary requirements for attainment of professional status within the accounting field. CPA, CMA, and CIA certification will be covered. In addition, this course will explore the complex set of ethical standards, responsibilities, and legalities intrinsic to both obtaining and maintaining status as a professional. Prerequisite: 322, 331, 341, 361 with a grade of *C* or better.

495-1 to 6 Internship. Supervised work experience in professional accounting. Not for graduate credit. Prerequisite: outstanding record in accounting and recommendation of the departmental committee on internship.

521-3 Financial Accounting Concepts. (Same as Business Administration 410.) Basic concepts, principles, and techniques used in the generation of accounting data for financial

statement preparation and interpretation. Asset, liability, and equity valuations; and income determination is stressed. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

522-3 Financial Accounting Theory. (Same as Business Administration 511.) Contemporary advanced accounting theory, including controversial issues with emphasis on net income determination and asset valuation; particular attention given to current publications of the professional and government agencies. Prerequisite: 521 or consent of instructor.

529-3 Seminar in Financial Accounting. Discussion of differences in accounting practices in a variety of major industry groups. Prerequisite: 521 or consent of instructor.

531-3 Managerial Accounting and Control Concepts. (Same as Business Administration 510.) Basic cost concepts, measures, methods and systems of internal accounting useful for managerial planning, implementation, control, and performance evaluation. Includes cost analysis relevant for non-routine decision-making. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

532-3 Controllorship. (Same as Business Administration 514.) Function of controller-ship in a business organization; analysis of the duties and responsibilities of a controller; contribution of a controller to effective planning, coordination, and control through accounting, case studies. Prerequisite: 531 or consent of instructor.

541-3 Tax Concepts. (Same as Business Administration 516.) Provides the accounting or business student with an understanding of the nature of the federal tax law and an appreciation of the laws impact upon business decisions. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

542-3 Tax Research and Procedure. Provides the student with a working knowledge of the tax practitioner's methodology applied to the solution of both routine and complex tax problems. Prerequisite: 541 or consent of instructor.

543-3 Corporate Taxation. Provides students with in-depth exposure to federal income taxation of corporations and shareholders. Areas explored are corporate formations, distributions, redemptions, liquidations, subchapter S election, corporate income tax, accumulated earnings tax, personal holding company tax, and affiliated corporations. Prerequisite: 541 or consent of instructor.

544-3 Partnership Taxation. Provides students with in-depth exposure to the federal income taxation of partnerships and partners. Areas explored are the definition of a partnership, acquisition of an interest, basis of interest, tax accounting for partnership operation, distributions, termination, sale or exchange of interest, collapsible partnerships, death or retirement, and tax shelters. Prerequisite: 541 or consent of instructor.

545-3 Estate Planning. A comprehensive study of the various aspects of estate planning, including an analysis of the impact of the federal estate and gift tax laws. In addition, the role of wills, trusts, insurance, and other related legal topics necessary to formulate a comprehensive plan is emphasized. The case approach will be utilized wherever feasible. Prerequisite: 541 or consent of instructor.

546-3 Seminar: Selected Tax Topics. Provides students with in-depth exposure to federal income taxation of selected topics. Topics will vary from semester depending upon instructor and topics of current interest. Prerequisite: 541 or consent of instructor.

551-3 Accounting Information Systems Concepts. (Same as Business Administration 515.) Basic concepts necessary to the design and operation of information systems for integrated business operations. Survey of the current status of technology and design for computer based systems. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

552-3 Accounting Information Systems II. Survey of the subsystems of a business information system and their integration. Specific attention will be given to the budgeting and planning systems and the accounting, marketing and production subsystems. Prerequisite: 551 or consent of instructor.

561-3 Auditing Concepts. (Same as Business Administration 512.) Course examines basic auditing concepts, objectives, and methodology with frequent reference to official auditing pronouncements and current literature. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

562-3 Advanced Auditing Topics. Course consists of a comprehensive study of auditing profession's evolution and an in-depth examination of state-of-the-art auditing topics. It will rely heavily on current literature in accounting and related disciplines. Prerequisite: 561 or consent of instructor.

571-3 Not-For-Profit Accounting. The study of accounting principles and practices of schools, hospitals, governmental agencies, the art, and other not-for-profit organizations. Emphasis is on financial reporting. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

590-3 Seminar in Accounting. (Same as Business Administration 519.) Discussion of current accounting theories, principles, standards, and problems. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

591-1 to 6 Independent Study. Directed independent study in selected areas of accountancy. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

599-3 to 6 Thesis. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and

who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Administration of Justice

The following courses are offered through the Center for the Study of Crime, Delinquency, and Corrections.

403-3 to 9 (3 per topic) Enforcement Operations. (a) Advanced investigation. (b) Enforcement management. (c) Enforcement discretion. This course offering provides a broad coverage of law enforcement activities from detailed investigative work through specialized management techniques required. Some sections of the course may be offered only every other year. Prerequisite: (a) 303 or graduate status; (b) 202 or graduate status or consent of instructor.

407-3 to 9 (3 per topic) Selected Topics in Criminal Law. (a) Substantive legal aspects. (b) Case preparation and prosecution. (c) Jurisprudence and procedures. Provides the framework for the understanding of basic substantive law and jurisprudence. Prerequisite: (a) 305 or graduate status; (b) 305, 407a, or graduate status.

415-3 Prevention of Crime and Delinquency. Multidisciplinary analysis of the functions, goals, and effectiveness of measures to forestall delinquency and crime. Etiology of delinquent behaviors as related to community institutions such as police, courts, corrections, mental health clinics, schools, churches, and citizen groups. Prerequisite: 200 and 201 or consent of instructor.

416-3 Methods of Criminal Justice Research. The principles of scientific inquiry as applied to the study of the criminal justice system. Overview and examples of project design, evaluative research, methodology, and statistical techniques appropriate to criminal justice research. Strongly recommended for students who plan to conduct empirical research in fulfillment of master's thesis requirement. Prerequisite: 200 and 201 or consent of instructor.

417-3 Research Practicum in the Administration of Justice. Application of the principles set forth in 416. Experience in the various phases of an actual research project, including project design, data collection and analysis, and effective communication of results via written reports. Prerequisite: 200 and 201 and 416 or consent of instructor.

460-3 Women and the Criminal Justice System. Addresses the topics of women as offenders, as victims, and as workers in the

criminal justice system. Prerequisite: 200 and 201 or consent of instructor.

470-3 Critical Theory of Criminal Justice. Selected key ideas of law enforcement, courts and corrections, collectively and severally, are established as the foundation for a frank evaluation of the merits of contemporary policies and practices. Prerequisite: 200 and 201 or consent of instructor.

471-3 Principles of Management in the Administration of Justice. Basic principles and techniques of the management in law enforcement, correctional, and other criminal justice agencies. Prerequisite: 200 and 201 or consent of instructor.

472-3 The American Correctional System. (Same as Sociology 472.) A survey of the correctional field, covering probation, institutional treatment, and parole. Historical development, organizational structure, program content, and current problems. Prerequisite: 200 and 201 or consent of instructor.

473-4 Juvenile Delinquency. (See Sociology 473.) Prerequisite: 200 and 201 or consent of instructor.

475-3 Management of Government Grants in Criminal Justice: Philosophy, Process, and Evaluation. Examines government grant award processes from announcement and review, through award and monitoring, to acceptance of final report. Explores various governmental techniques of support programs in criminal justice—block and direct grants, subsidies, contracts, competitive grants. Preparation of program proposals or grant applications; procedures to secure support and clearances from involved agencies and governmental bodies. Prerequisite: three administration of justice courses or consent of instructor.

485-3 to 6 (3 per topic) Selected Topics in Correctional Program Services. (a) Correctional case management. Prepares students to become practitioners, supervisors, and administrators in probation, parole, correctional institutions, and community-based programs in roles traditionally assigned to probation and parole officers, correctional counselors, social workers, and similar titles. Recognizes the importance of the case manager as the planner, mobilizer of resources, advocate, and community organizer. (b) Corrections and the community. Traditional correctional functions are redefined to emphasize development of resources of community at large, diversion of convicted offenders from institutions and direct involvement of correctional programs in community affairs. Prerequisite: three administration of justice courses or consent of instructor.

490-1 to 3 Independent Study in the Administration of Justice. Supervised readings or independent investigative projects in the various aspects of crime control, treatment of offenders; and management of programs of law enforcement, courts, and correctional agencies. May be repeated up to a maximum of three credit hours. Prerequisite: 200 and 201 or consent of instructor.

492-2 to 6 (2 to 3 per semester) Contemporary Issues in Administration of Justice. A forum for focusing on special interest topics depending on the availability of staff, visiting professors, and other selected instructional resources to cover a contemporary issue of concern to students and the faculty. May re-enroll for a maximum of six credits. Prerequisite: 200 and 201 or consent of instructor.

500-3 History and Philosophy of Criminal Justice System. Exploration of the origins and significance of key ideas influencing the rise and development of criminology as multidisciplinary theory and practice. Prerequisite: consent of instructor.

504-3 Criminological Theory. Multidisciplinary study of biogenic, psychogenic, and sociogenic explanations for criminal behavior relevant to policy-making and practice in criminal justice. Prerequisite: consent of instructor.

516-3 to 6 (3 per topic) Seminar in Advanced Criminal Justice Research. (a) Design. Advanced treatment of the rationale, underlying assumptions and instrumentation of experimental, quasi-experimental and survey research appropriate to the study of criminal justice. (b) Analysis. Focuses on multivariate analysis, specifically, multiple regression, analysis of variance, and log-linear models. Emphasis will be on the conceptual basis of the models and their application to criminal justice.

562-3 Fundamental Legal Systems in Criminal Justice. Practical use of a law library culminating in two legal research papers. The philosophical and historical evolution of law with emphasis on the development of American legal procedures. Prerequisite: graduate status.

571-3 Correctional Systems in Criminal Justice. Evaluation of corrections as a system, its programmatic interrelationships and conflicts, and the probable course of its future development. Prerequisite: consent of instructor.

572-4 Seminar in Criminology. (See Sociology 572.)

578-1 to 4 Seminar in Correctional Rehabilitation Counseling. Review of major issues and research relative to rehabilitation practices in youth and correctional settings. Prerequisite: consent of instructor.

580-3 Planning for Change in the Administration of Justice. A simulated planning and design experience with real justice system problems is offered. Each student is required to individually investigate a criminal justice sub-system, study the literature and theoretical foundation on modifying such systems, and develop a comprehensive plan to deal with the assigned system.

582-3 Criminal Law and the Correctional Process. Basic principles and administration of the criminal law and the legal foundations of the juvenile court, the sentencing process,

parole and probation, and the changing concept of mental competency. Includes statutory, case, and administrative law requirements of "due process" in correctional services.

584-3 Seminar in Criminological Program Management. Seminar application of management concepts, including program evaluation, to the practice settings of programs in law enforcement and correctional agencies. Prerequisite: 471 or consent of instructor.

587-3 Seminar in Law Enforcement. Multidisciplinary study of the philosophical premises, theoretical implications, and functions of contemporary law enforcement. Prerequisite: consent of instructor.

588-3 to 9 (3 per topic) Selected Topics in Law Enforcement. (a) Law enforcement education and training; (b) law enforcement policy; (c) law enforcement administration. Provides for analysis of historical, contemporary, and future policies and issues toward preparation for administrative and educational roles in the field. Prerequisite: for (c) 403b.

590-1 to 3 Supervised Readings in Selected Subjects. Readings supervised by a faculty member in a selected area of the Administration of Justice. Prerequisite: consent of a faculty sponsor.

591-3 to 6 Individual Research. A field project directed by a faculty committee which represents the study of a problem confronted during field experience centering on an applied criminal justice topic and results in a project or program development plan. Graded S/U only. Prerequisite: consent of instructor.

592-3 Advanced Seminar in Administration of Justice. Seminars of varied content for advanced students. Prerequisite: consent of instructor.

595A-3 or 6 Supervised Field Work (Internship). Experience in law enforcement agencies, juvenile courts, probation and parole departments, correctional institutions, delinquency control programs, and public or voluntary agencies. Orientation sessions precede placement. Student must submit internship application during the first 30 days of the preceding spring or fall semester. Graded S/U only. Prerequisite: consent of instructor.

595B-3 or 6 Supervised Field Work (Internship). Experience in law enforcement agencies, juvenile courts, probation and parole departments, correctional institutions, delinquency control programs, and public or voluntary agencies. Orientation sessions precede placement. Student must submit internship application during the first 30 days of the preceding spring or fall semester. Graded on a letter grade basis. Prerequisite: consent of instructor.

599-3 to 6 Thesis. Graded S/U only. Prerequisite: consent of academic coordinator.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their

dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Agribusiness Economics

Field trips are required for certain courses. The School of Agriculture offers courses in agribusiness economics as part of a residence-center program at Western Illinois University.

401-3 Agricultural Law. Relations of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation, and other programs involving agriculture. Prerequisite: junior standing or consent of instructor. Elective Pass/Fail.

402-1 to 6 Problems in Agribusiness Economics. Designed to improve the techniques of agribusiness economics workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. Prerequisite: consent of chairperson.

440-3 Land Resource Economics. (Same as Economics 471.) The use of land as an economic variable in production of goods and services; land markets; group versus individual conflicts; and land utilization as related to institutional arrangements. Prerequisite: 204, GSB 211 or consent of instructor. Elective Pass/Fail.

442-2 Agricultural Development in Emerging Countries. Principles and practices in improving agriculture in areas with limited capital and low levels of technology. Prerequisite: 204 or GSB 211. Elective Pass/Fail.

443-2 Marketing Practices and Problems in Developing Countries. Types of markets, assembly of products, storage, transportation, quality determination, and pricing practices which are peculiar to the developing countries. Market organization and practices for the major export products and the principal domestic foods and fibers in such countries. Methods of progressively improving such markets. Prerequisite: 204 or equivalent. Elective Pass/Fail.

450-3 Advanced Farm Management. Application of production economic principles and modern decision-making techniques to farm management problems. The importance of information, sources of agricultural risk and management of risk in farm planning will be integrated. Prerequisite: 350 or equivalent, and GSD 107. Elective Pass/Fail.

451-2 Farm Real Estate Appraisal. Principles and practices of farm real estate

appraisal. Application of capitalization, market and cost approaches for estimating market value. Understanding of special valuation methods used for buildings, insurance, assessments, loans, and condemnation. Field trips not to exceed \$10. Prerequisite: 350 or consent of instructor. Elective Pass/Fail.

453-3 Advanced Farm Planning Techniques. Application of linear programming to farm planning including enterprise selection, resource allocation, and least cost ration formulation. Farm decision making under uncertainty and analysis of farm expansion alternatives. Prerequisite: 350 or consent of instructor. Elective Pass/Fail.

460-3 Agricultural Prices. Measurement and interpretation of factors affecting agricultural prices. Construction of index numbers, trend analysis, seasonal and cyclical price movements, and the measurement of relationships between price and other variables. Prerequisite: 362 or equivalent.

461-3 Agriculture Business Management. Function of top management in agribusiness, such as: determining objectives; developing sound and consistent policies for achieving objectives; organizing the administrative personnel to carry out the plans; guiding and maintaining the administrative organization. Prerequisite: 360.

462A-1 Agricultural Marketing Problems and Practices—Livestock. Problems and their solutions in marketing livestock. Prerequisite: 362. Elective Pass/Fail.

462B-1 Agricultural Marketing Problems and Practices—Field Crops. Problems and their solutions in marketing field crops. Prerequisite: 362. Elective Pass/Fail.

462C-1 Agricultural Marketing Problems and Practices—Dairy and Poultry. Problems and their solutions in marketing dairy and poultry products. Prerequisite: 362. Elective Pass/Fail.

462D-1 Agricultural Marketing Problems and Practices—Horticultural Crops. Problems and their solutions in marketing horticultural crops. Field trips cost \$5. Prerequisite: 362. Elective Pass/Fail.

463-2 Commodity Futures Market. The mechanics of futures market trading, commodity charting, technical and fundamental trading approaches, hedging and risks in commodity speculation will be emphasized. The history, development, and importance of the commodity future market will be reviewed and the role of participants and supporting institutions will be presented. Prerequisite: junior or senior standing. Elective Pass/Fail.

500-4 (2,2) Agribusiness Economics Research Methodology. (a) Social science research methodology in agriculture including defining research problems, preparing project proposals, and sources of data. (b) A survey of techniques and procedures for developing and evaluating agricultural economic research models.

551-3 Resource Allocation in the Agri-

business Firm. An examination of resource allocation in the agribusiness firm. Production decisions, agricultural product price analysis, and decision making models are considered. Prerequisite: six hours of agricultural economics or economics or consent of instructor.

552-3 Problems and Policies of the Agricultural Sector. An analytical survey of agricultural policy issues including agricultural price and income stabilization; international trade, capital and credit, the structure of agriculture, and the quality of life in rural areas. Prerequisite: six hours of agricultural economics or economics or consent of instructor.

581-1 to 4 Seminar in Agribusiness Economics. Seminar on current research and issues in agribusiness economics on topics such as farm management, farm policy, agricultural marketing, farm finance, agricultural prices, and international agriculture.

588-1 to 8 International Graduate Studies. University residential graduate study program abroad. Prior approval by the department is required both for the nature of program and the number of semester hours of credit.

590-1 to 4 Readings. Readings in specialized topics under the direction of an approved graduate faculty member. Graded *S/U* only.

593-1 to 4 Individual Research. Directed research in selected topics under the supervision of an approved graduate faculty member. Graded *S/U* only.

599-1 to 6 Thesis. Work in the research for and presentation of a thesis under the supervision of an approved faculty member. Graded *S/U* only.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Agricultural Education and Mechanization

Field trips are required for certain courses. The School of Agriculture offers courses in agricultural education and mechanization as part of a residence-center program at Western Illinois University.

402-1 to 12 (1 to 6 per topic) Problems in Agricultural Education and Mechanization. (a) Agriculture education. (b) Agriculture mechanization. Designed to improve the tech-

niques of agricultural education and mechanization workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. A limit of six hours will be counted toward graduation in a master's degree program. Prerequisite: consent of chairperson.

411-3 Program Development in Agricultural Extension. Principles and procedures in developing extension programs with emphasis on program determination and methods. Prerequisite: junior standing.

412-3 Principles of Agriculture Mechanization. Theory and use of educational materials and devices adaptable to the needs and interest of educators involved in agricultural mechanization laboratories.

414-3 Adult Education Procedures, Methods, and Techniques. Determining adult education needs and interests of the community. Securing and organizing the information needed for adult education programs and planning teaching activities.

415-3 Beginning Teacher Seminar. The application, in the professional field setting of principles and philosophies of the education system. Includes application of principles of curricula construction, programming student and community needs. Prerequisite: consent of instructor.

472-3 Agricultural Tractors and Engines. Tractor performance and selection, principles of operation, maintenance analysis, and tune-up of multi-cylinder farm type internal combustion engines.

473-2 Advanced Agricultural Electricity. Application of electricity to agricultural problems. An emphasis on principles of electrical distribution on the farm and/or the agribusiness operation. Planning the efficient usage of electricity. Prerequisite: 379 or equivalent.

474-2 Advanced Agricultural Structures. A study of design characteristics applicable to farm structures. Emphasis is given to economics, utilization, environment, materials, and types of structures. Plans and drawings of farmstead layout, service buildings, and rural residential buildings are made. Prerequisite: 378 or equivalent.

475-3 Agricultural Materials Handling, Processing, and Storage. Arrangement of systems for animal waste disposal, feed handling and processing, and storage of agricultural products. Prerequisite: 378 or 379 or 473 or 474.

500-4 (2,2) Agricultural Education and Mechanization Research Methodology. (a) Social science research methodology in agriculture including defining research problems, preparing project proposals, and sources of data. (b) A survey of techniques and procedures for developing and evaluating agricultural economic research models.

525-3 Program Development in Agricul-

tural Education. Analysis and appraisal of current trends in agricultural education program development. Attention is given to implications for educators at the high school, post secondary, and in extension education positions. Offered each year, alternating spring and summer semesters.

526-3 Professional Development in Agricultural Education. Recent developments and trends in agricultural education are presented for review and discussion. The role of the agricultural instructor in determining educational priorities is emphasized. Offered each year, alternating fall and summer semesters.

571-3 Current Problems and Research in Agricultural Power and Machinery. A study and analysis of current problems, research findings, and innovations in agricultural power units and machinery. Prerequisite: 471 or 472 or equivalent.

581-1 to 8 (1 to 4 per topic) Seminar. (a) Agriculture education. (b) Agriculture mechanization. Study and discussion in selected topics under the supervision of an approved graduate faculty member. A maximum of four hours can be counted toward a Master of Science degree.

588-1 to 8 International Graduate Studies. University residential graduate study program abroad. Prior approval by the department is required both for the nature of program and the number of semester hours of credit.

590-1 to 4 Readings. Readings in specialized topics under the direction of an approved graduate faculty member. Graded *S/U* only.

593-1 to 4 Individual Research. Directed research in selected topics under the supervision of an approved graduate faculty member. Graded *S/U* only.

595-1 to 4 Agricultural Occupation Internship. Prepares coordinators to fulfill their responsibilities in selected areas in agricultural related occupations through an internship in the area of specialization and through orientation to related technical information. Prerequisite: consent of department.

599-1 to 6 Thesis. Work in the research for and presentation of a thesis under the supervision of an approved faculty member. Graded *S/U* only.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Agriculture

401-3 Fundamentals of Environmental Education. (Same as Forestry 401 and

Recreation 401.) A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation or education, or consent of instructor.

423-3 Environmental Interpretation. (Same as Forestry 423 and Recreation 423.) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

Animal Industries

Field trips are required for certain courses. The School of Agriculture offers courses in animal industries as part of a residence-center program at Western Illinois University.

410-3 Meat Science. Chemical, physical, and nutritional properties of meat and meat products. Topics covered include muscle function, tissue growth and development, aspects of post mortem change including rigor mortis, meat microbiology, methods of analysis and quality control. Prerequisite: 210, Chemistry 140 or equivalent, and a course in physiology.

414-2 Animal Feed Quality Control. Laboratory procedures for nutrient determinations used in animal feed quality control. Prerequisite: Chemistry 140 or equivalent.

415-3 Monogastric Nutrition. Advanced principles and practices involved in meeting nutrient requirements of monogastric animals. Prerequisite: 215 and 315.

416-3 Ruminant Nutrition. Practical knowledge gained of problems associated with digestion, absorption, and metabolism of nutrients as related to domestic ruminants, horses, and other pseudoruminants. Prerequisite: 215 and 315.

419-3 Stable Management and Horse-manship. Laboratory experience in routines of horse care, training, and management. Field trips. Additional costs \$5. Prerequisite: 319.

420-4 Commercial Poultry Production. Principles and practices of management of broilers, layers, and turkeys as adapted to commercial operations. Field trip. Prerequisite: 315 or consent of instructor.

421-2 International Animal Production. A study of world animal production practices with emphasis on the developing countries. Adaptability of animals to environmental extremes and management practices employed to improve productivity. Prerequisite: junior standing plus 121 or one year of biological science. Elective Pass/Fail.

430-4 Dairy Cattle Management. Application of the principles of breeding, nutrition, physiology, and economics to management of

a profitable dairy herd. Breeds of dairy cattle, housing, milking practices, and quality milk production. Field trip. Students enrolled will incur field trip expenses of approximately \$25. Prerequisite: 315, 332.

431-4 Reproductive Physiology of Domestic Animals. Comparative anatomy and physiology of the male and female reproductive system of domestic animals; hormones, reproductive cycles; mating behavior; gestation and parturition; sperm physiology; collection and processing of semen; artificial insemination; pregnancy tests; diseases. Prerequisite: 121 or a course in physiology.

432-2 Quantitative Inheritance of Farm Animals. A review of the genetic principles underlying changes in animal breeding population; interpretations of gene frequency, heritability, and genetic correlations; application of selection and breeding systems in farm animals. Prerequisite: 332. Elective Pass/Fail.

434-2 Physiology of Lactation. Anatomy and physiology of milk secretion; endocrine control; milk precursors and synthesis; milk composition; physiology and mechanics of milking, mastitis. Prerequisite: course in physiology.

455-2 Animal Waste Management. Acquaints the student with the scope and problems involved with animal waste management, current regulations and laws on environmental protection. Principles covering waste management technology and current livestock waste management systems are presented. Field trips will be scheduled. Prerequisite: junior standing.

465-4 Swine Production. Swine production systems and management techniques including breeding and selection, reproduction, nutrition, herd health and disease prevention, housing and waste management, marketing, production costs and enterprise analysis. Field trip. Prerequisite: 315 and 332 or consent of instructor.

480-3 Sheep Production. Breeding, feeding, and management of sheep. Field trip. Prerequisite: 315.

485-4 Beef Production. Beef cattle production systems and management, breeding and selection, reproduction, nutrition, and herd health with emphasis on the most economical and efficient systems. Field trip. Students enrolled will incur field trip expenses of approximately \$5. Prerequisite: 315 and 332 or consent of instructor.

500-3 Research Methods in Agricultural Science. Experimental design and biometry as applied to biological and allied fields. Prerequisite: graduate student.

502-2 Surgical Research Techniques in Farm Animals. Basic methods of experimental surgery and sampling of biological materials in research on farm animals. Practice of techniques discussed in the lectures. Prerequisite: consent of instructor.

506-3 Instrumentation Methods in Agricultural Science. Basic methods and tech-

niques of spectrophotometric and chromatographic instrumentation are taught in the lectures with application of instruments carried out in the laboratories. Prerequisite: consent of instructor.

515-3 Energy and Protein Utilization. Energy and protein utilization including digestion, absorption, and metabolism as related to domestic animal production. Prerequisite: Chemistry 344 and 345.

516-3 Minerals and Vitamins in Animal Nutrition. Basic and applied principles of mineral and vitamin metabolism. Emphasis on metabolic functions, reaction mechanisms and interrelationships. Prerequisite: Chemistry 344 and 345.

531-2 Livestock Management for Reproductive Efficiency. An advanced course in livestock reproduction and its application to management problems. Current research in reproductive physiology applicable to the management of farm herds and flocks will be discussed. Prerequisite: 431.

581-1 to 2 (1,1) Seminar. Problems relating to various phases of animal industries. Maximum of one hour per semester.

588-1 to 8 International Graduate Studies. University residential graduate study program abroad. Prior approval by the department is required both for the nature of the program and the number of credit hours.

590-1 to 3 Reading in Animal Industries. Reading in specialized fields under direction of approved graduate specialists.

593-1 to 3 Individual Research. Investigation of a problem in animal science under the supervision of an approved graduate specialist.

599-1 to 6 Thesis. Credit is given for a master's thesis when it is accepted and approved by the thesis committee.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Anthropology

400A-3 Current Problems in Physical Anthropology. Currently controversial issues in evolutionary theory and classification will be exemplified by the study of selected aspects of physical anthropology: genetics, primatology, hominid fossil record, human variation.

400B-3 Current Problems in Linguistic Anthropology. Presentation and discussion of ongoing developments in theory and methodology in linguistic anthropology. Prerequisite: 300B for undergraduates or consent of instructor.

400C-3 Current Problems in Archaeology. Detailed consideration of various aspects of current directions in archaeological method and theory. Prerequisite: 300C for undergraduates or consent of instructor.

400D-3 Current Problems in Social-Cultural Anthropology. A survey of current problems in the description and analysis of non-Western social systems. Prerequisite: 300D for undergraduates or consent of instructor.

401-3 Language and Culture. Linguistics and the study of culture in relation to animal communication, language acquisition, linguistic typology and universals, ethnosemantics, and sociolinguistics. Prerequisite: 300B for undergraduates or consent of instructor.

402-3 People and Culture. Offered primarily for non-anthropology majors. Focuses on the nature of culture, cultural processes, and culture change with emphasis on social, political, economic, artistic, religious, and linguistic behavior of humans as individuals and in cultural groups.

404-3 Art and Technology in Anthropology. An introduction to the basic ways in which people utilize the natural resources of their habitat to meet various needs, such as food, shelter, transportation, and artistic expression. The nature of art, its locus in culture, and its integration into technological society will be considered.

406-3 Conservation Archaeology. The method and theory of archaeology in relationship to local, state, and federal laws regarding the protection and excavation of antiquities. Emphasis is on problem-oriented research and excavation, as well as the preparation of archaeological contracts and the writings of reports to satisfy statutes involving environmental concerns. Prerequisite: 300C or 400C or consent of instructor.

409-3 History of Anthropology. The development of anthropological thought from the Age of Discovery to the present. The emphasis will be on the intellectual and social milieu which fostered general and specific conceptual views and methods. Considered are developments in the several major subfields of anthropology including archaeology, anthropological linguistics, human biology, and cultural anthropology. Required for all anthropology graduate students. Prerequisite: none. 300D recommended for undergraduates; 400D or equivalent recommended for graduate students.

410A-3 Applied Anthropology. The practical applications of theoretical social anthropology. Problems of directed culture change are examined from an anthropological perspective as they apply to the work of the educator, social worker, extension agent, administrator, and others who are attempting to guide change in the lifeways of others in Western culture and the third world. Prerequisite: none. 300D recommended for undergraduates.

410B-3 Educational Anthropology. An examination of the cultural processes of formal

and informal education, the use of anthropological premises in educational program design, bicultural-bilingual education programs, comparative American/non-American systems, and the teaching of anthropology. Prerequisite: none. 300D recommended for undergraduates.

410C-3 Economic Anthropology. The study of non-Western economic systems. Prerequisite: none. 300D recommended for undergraduates.

410D-3 Anthropology of Folklore. A comparative study of the role of folklore in various cultures of the world, with emphasis upon nonliterate societies. Analysis of motifs, tale-types, themes, and other elements; comparisons between nonliterate and literate groups. Prerequisite: none. 300D recommended for undergraduates.

410E-3 Anthropology of Law. Anthropological thought on imperative norms, morality, social control, conflict resolution and justice in the context of particular societies, pre-literate and civilized. Law of selected societies is compared to illustrate important varieties. Prerequisite: none. 300D recommended for undergraduates.

410F-3 Anthropology of Religion. A comparative study of (religious) belief systems, with emphasis upon those of non-literate societies. Examination of basic premises and elements of these belief systems, normally excluded from discussions of the "Great Religions". Prerequisite: none. 300D recommended for undergraduates.

410G-3 Psychological Anthropology. Similarities and differences in personality structures cross-culturally including the historical development of this as an anthropological subdiscipline. Prerequisite: none. 300D recommended for undergraduates.

410H-3 Ethnomusicology of Oceania, Asia, and Africa. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Oceania, Asia, and Africa.

410I-3 Ethnomusicology of Middle East, Europe, and the New World. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Europe and the New World.

410J-3 Kinship and Social Organization. Universal features of non-Western systems of kinship terminology and social organization. Topics include the structure and functioning of kinship systems, lineages, clans, sibs, phratries, moieties, and tribal units. Prerequisite: none. 300D recommended for undergraduates.

420-3 to 9 Advanced Studies in Languages of the World. Attention given to language families, focusing on studies of linguistic history, genetic relationships, and typological classification. Any one semester will concentrate on language of a major geographical area. Prerequisite: 300B or 400B or consent of instructor.

425-3 Cognitive Anthropology. The theory

of culture as cognitive organization is explored. Among the topics are: formal analysis of lexical domains, folk classifications and strategies, the problem of psychological validity, linguistic determinism and relativity, biogenetic and psycholinguistic bases of cognition, and the "new ethnography".

430A-3 Archaeology of North America. Detailed study of the early cultures of North America. Emphasis on the evolutionary cultural development of North America. Prerequisite: 300C or 400C or consent of instructor.

430B-3 Archaeology of Meso-America. Detailed study of the early cultures of Meso-America with emphasis on the evolutionary cultural development of Meso-America. Prerequisite: 300C or 400C or consent of instructor.

430C-3 Archaeology of the Southwest. Detailed study of the early cultures of the Southwest with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

430D-3 Archaeology of the Old World. Detailed study of the early cultures of the Old World with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

440A-3 Human Evolution. An advanced consideration of the fossil evidence for human evolution and evaluation of the various theories regarding the course of human evolution. Prerequisite: 300A or consent of instructor.

440B-3 Race and Human Variation. A consideration of the range, meaning, and significance of contemporary human biological variation, including evolutionary and adaptive implications and the utility of the race concept. Prerequisite: 300A or consent of instructor.

441-3 Laboratory Analysis in Archaeology. Methods of analysis of archaeological data in a laboratory setting.

444-3 Human Genetics and Demography. A course in human genetics with an emphasis on population genetics and demography of modern and ancient human populations. Prerequisite: 300A, 400A or consent of instructor.

450-6 (3,3) Museum Studies. A detailed study of museum operation to include (a) methodology and display and (b) administration, curation, and visits to or field work with area museums. Practical museum work will be stressed in both (a) and (b) and (a) must be taken before (b).

455-3 to 15 (3 per topic) Topics in Physical Anthropology. Intensive study of one of the major subfields within physical anthropology. (a) Dental anthropology. (b) Laboratory methods. (c) Primate behavior and evolution. (d) Quantitative methods. (e) Epidemiology. Prerequisite: 300a or consent of instructor.

460-1 to 12 Individual Study in Anthropology. Guided research on anthropological problems. The academic work may be done on campus or in conjunction with approved off-campus (normally field research) activities.

470-3 to 24 People and Cultures. A survey of the prehistory, cultural history, and contemporary cultures of the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) Latin America, (f) Near East and North Africa, (g) North America, (h) Oceania. Prerequisite: a basic acquaintance with geography and history of the areas.

480-3 Honors Seminar. Topics to be arranged by agreement of participating faculty and students. Not open to graduate students. Prerequisite: consent of department. Elective Pass/Fail.

495-6 to 8 Summer Ethnographic Field School. An eight-week field research training program in Southern Illinois communities. Students will attend seminars on campus and in the field, but the greater part of the time will be spent engaging in continuous team research under the direction of the faculty members involved in the program. Some form of cooperative living arrangement in the field will be organized. The program is open to advanced undergraduate and graduate students. Prerequisite: consent of instructor.

496-1 to 8 Field School in Archaeology. Apprentice training in the field in archaeological method and theory. Students will be expected to be in full-time residence at the field school headquarters off campus. Prerequisite: consent of instructor.

499-3 Honors Thesis. Directed reading and field or library research. The student will write a thesis paper based on original research. Not open to graduate students. Prerequisite: consent of department. Elective Pass/Fail.

510-2 to 6 (2 to 3 per topic) Seminar in New World Archaeology. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

511-2 to 6 (2 to 3 per topic) Seminar in Meso-American Archaeology. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

512-2 to 6 (2 to 3 per topic) Seminar in Old World Archaeology. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

513-2 to 6 (2 to 3 per topic) Seminar in Archaeology. Seminars in varying topics in archaeology. Students should consult department about subjects to be covered.

515A-3 Seminar in Social-Cultural Anthropology. Discussion of anthropological concepts of social structure and related topical themes, based upon extensive reading selected from a large number of sources. Prerequisite: 409 or consent of instructor.

515B-3 Seminar in Social-Cultural An-

thropology. Intensive analysis of a limited set of monographs organized around a theoretical problem or set of problems. Prerequisite: 409 or consent of instructor.

520-2 to 6 (2 to 3 per topic) Seminar in New World Ethnology. From year to year, the areal and topical coverage of this course will vary, as will instructors. Students should consult the department about subjects to be covered.

521-2 to 6 (2 to 3 per topic) Seminar in Ethnology of Latin America. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

522-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Oceania. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

523-2 to 6 (2 to 3 per topic) Seminar in Anthropology of Africa. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

530-2 to 6 (2 to 3 per topic) Seminar in Physical Anthropology. Seminars in varying topics in physical anthropology. Students should consult the department about subjects to be covered.

545-2 to 6 (2 to 3 per topic) Seminar in Anthropological Linguistics. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

560-2 to 6 (2 to 3 per topic) Seminar in Comparative Social Organization. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

562-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Contemporary Peoples. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

565-2 to 6 (2 to 3 per topic) Seminar in Culture Change and Development. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

567-2 to 6 (2 to 3 per topic) Seminar in Anthropological Theory and Method. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

571-2 to 6 (2 to 3 per topic) Visual Anthropology. The anthropology of visual communication.

576-2 to 6 (2 to 3 per topic) Seminar in

Anthropological Research Design. Supervised training in the preparation of anthropological research designs. Requirements will include completed research proposals involving the relation of data to theory and results in the general sub-areas of archaeological, physical, social, and linguistic anthropology. Coverage will vary. Students should consult the department.

581-2 to 6 (2 to 3 per topic) Seminar in Anthropology. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

585-1 to 12 (1 to 3 per semester) Readings in Anthropology. Guided readings to cover special topics and fill gaps in the student's specialized anthropological background, to be arranged with department.

590-1 to 12 Internship in Conservation Archaeology. The purpose of this course is to allow pre-professional archeologists to be introduced to an actual archaeological or administrative milieu. This will normally take the form of a supervised field project, but the project may be excavation, survey, or aspects of administration. Graded *S/U* only.

595-4 (2, 2) Field Methods in Ethnology. (a) Stresses field methods in ethnology, including anthropological methods of inquiry and documentation of cultures and habitat together with appropriate instruction in the technique of field work such as photography and sound recording. (b) Stresses the linguistic context of culture, its appropriate recording, and structural study.

596-4 (2, 2) Field Methods in Archaeology. (a) Includes anthropological methods of inquiry and documentation of culture and habitat, together with appropriate instruction in the techniques of field work. (b) Stresses the practical application of archaeological methods and techniques to field work.

597-1 to 12 Fieldwork in Anthropology. To be arranged with department. Graded *S/U* only.

599-1 to 6 Thesis.

600-1 to 32 (1 to 12 per semester) Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Art

Art studio courses (400-499, 500-598) are directed toward individual re-

search in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the major field.

Courses in this department may require the purchase of supplemental materials. Permission of the major adviser in each studio is required for enrollment in studio courses.

400-3 to 30 (6, 6, 3, 3 to 15) Advanced Drawing I. (a) Figure drawing. Not for graduate credit. Prerequisite: 300a, b, c. (b) Individual research. Not for graduate credit. Prerequisite: 400a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 400b. (d) Independent study in drawing. Prerequisite: for undergraduates 400b; for graduates, consent of major adviser. Studio fee \$3 per semester.

401-3 to 30 (6, 6, 3, 3 to 15) Advanced Painting I. (a) and (b) Individual problem solving with emphasis on technical and conceptual synthesis. Not for graduate credit. Prerequisite: for a, 301a, b, c; for b, 401a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 401b. (d) Independent study in painting. Prerequisite: for undergraduates, 401b; for graduates, consent of major adviser. Studio fee of \$3 per semester.

402-3 to 30 (6, 6, 3, 3 to 15) Advanced Printmaking. (a) Advanced techniques in printmaking to include intense work in color printing. Not for graduate credit. Prerequisite: 302, 6 hours. (b) Individual research with emphasis on history, processes and ideas which lead to the formation of personal content. Not for graduate credit. Prerequisite: 402a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 402b. (d) Independent study in printmaking. Prerequisite: for undergraduates, 402b; for graduates, consent of major adviser. Material and supplies cost dependent upon major field. Studio fee \$35 per semester.

403-3 to 30 (6, 6, 3, 3 to 15) Advanced Sculpture I. (a) Foundry techniques and direct metal fabrication. Not for graduate credit. (b) Individual research with emphasis on history, materials, processes, and ideas to form personal content. Not for graduate credit. Prerequisite: 403a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 403b. (d) Independent study in sculpture. Prerequisite: for undergraduates, 403b; for graduates, consent of major adviser.

404-3 to 27 (3, 6, 3, 3 to 15) Advanced Ceramics I. (a) Assigned individual problems with emphasis on ceramic form and glazing. Not for graduate credit. Prerequisite: 304, 6 hours. (b) Individual research with emphasis on kiln theory and design. Not for graduate credit. Prerequisite: 404a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 404b. (d) Independent study in

ceramics. Prerequisite: for undergraduates, 404b; for graduates, consent of major adviser. Studio fee \$60 per semester.

405-3 to 27 (3, 6, 3, 3 to 15) Advanced Metalsmithing I. (a) Emphasis will be placed on advanced processes to develop individual expression. Not for graduate credit. Prerequisite: 305a and b. (b) Media exploration to develop individual styles. Not for graduate credit. Prerequisite: 405a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 405b. (d) Independent study in metalsmithing. Prerequisite: for undergraduates, 405b; for graduates, consent of major adviser. Studio fee \$6 per semester hour.

406-3 to 27 (3, 6, 3, 3 to 15) Advanced Fibers I. (a) Individual design problems. Not for graduate credit. Prerequisite: 306b. (b) Individual research with emphasis on the intensive use of fibers as a creative medium. Not for graduate credit. Prerequisite: 406a. (c) Senior seminar and exhibition. Prerequisite: 406b. (d) Independent study in fibers. Prerequisite: for undergraduates, 406b; for graduates, consent of major adviser. Studio fee of \$10 per semester hour.

408-2 to 9 (2 to 3, 2 to 3, 2 to 3) Basic Research in Art Education. Each student demonstrates via class presentation, term papers and answers to exam question, a knowledge of basic research techniques and applications; important literature in the field of art education; broad research meanings; a theory of art education and material on behavioral objectives presented in class and via tape-slide self instruction programs.

414-3 to 21 Glass I. A studio course designed for the beginning glass student focusing initially upon basic "flat glass" and cold working techniques and processes. Coursework includes projects intended to familiarize the student with designing and executing products in stained glass. Student will be introduced to forming techniques in glassblowing. Studio fee \$25 per semester. Prerequisite: consent of instructor.

418-2 to 9 (2 to 3, 2 to 3, 2 to 3) Individual Teaching Methods. Each student demonstrates an understanding of individual teacher-directed self-evaluative teaching methods involving studio projects, teacher-student evaluative sessions, individual projects, lecture-discussions and a term paper. Incidental fee \$20 maximum.

419-3 17th and 18th Century Art. A survey of art in Europe from ca. 1550 to 1880. Architecture, sculpture, and painting will be presented as well as representative examples of the minor arts where germane to a particular style or area.

428-3 Individual Problems in Art Education for Elementary Education Majors. Individual concentration on one studio discipline and its application to preschool, elementary education, early childhood, and special education. Incidental expenses will be at least \$20. Prerequisite: 348a.

439-3 American Art to World War II. A

selected study of American art from the Colonial period to 1945. Native Indian and Hispanic cultures will be touched upon. Attention will be given to traditional art forms such as architecture, sculpture, and painting; however, the rich and varied folk art traditions of America will also be explained.

447-3 Introduction to Museology. A survey of museum and gallery techniques (emphasis upon practical exhibit development) which will involve answering questions concerning contractual agreements, taxes, insurance, packing, shipping, exhibit design and installation, record systems, general handling, public relations, and sale of art works directed toward problems encountered by the artist outside the privacy of the studio. Prerequisite: art major or consent of instructor.

449A-3 Art of the Northern Renaissance. A survey of art in northern Europe from 1300 to 1600. Architecture, sculpture, and painting will be presented as well as representative examples of the minor arts.

449B-3 Art of the Italian Renaissance. A survey of art in Italy from 1250 to 1550. Architecture, sculpture, and painting will be presented as well as representative examples of the minor arts.

457-3 Women in the Visual Arts. Consists of a survey of women's contributions and participation in the visual arts from the middle ages through the Twentieth century. Through lecture, discussion and research, painting, sculpture, architecture, crafts, film, photography, and other forms of visual art will be covered. Screening fee \$10.

467-3 Critical Issues in Contemporary Art. An examination of the style and meaning of contemporary art in relation to the current political, social, and cultural issues. Will include visual arts, architecture, and communications media.

477-3 American Art of the Thirties. A socio-political and artistic study of American art during the decade of the Great Depression. Course material will be divided in three parts: 1)a survey of art trends during the Thirties concentrating on traditional art forms such as painting, sculpture, and architecture, 2)an investigation into government-subsidized art programs, and 3)recent governmental and corporate patronage of the arts through such programs as the National Endowment.

487-3 Special Studies in Italian Renaissance Mural Painting. A study of Italian mural painting from 1250 to 1500. Special emphasis will be placed on the production, historical background, iconography, and patronage of the major narrative cycles of this period.

499-3 to 21 Individual Problems. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Designed to adapt to students' individual needs in problem research. Prerequisite: senior standing in the

School of Art, a 3.0 average, and consent of instructor.

500-3 to 21 Advanced Drawing II. A studio directed toward individual research in the student's major field. Emphasis is placed upon the historical materials, processes, and ideas that form the content and experience of the student's major field. Studio fee \$3 per semester. Prerequisite: consent of major adviser.

501-3 to 21 Advanced Painting II. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Studio fee \$3 per semester. Prerequisite: consent of major adviser.

502-3 to 21 Advanced Printmaking II. Advanced studio course in printmaking directed toward individual research in the student's choice of print media. Emphasis is on the processes which lead to the formation of personal content. Studio fee \$35 per semester. Prerequisite: graduate status and consent of instructor.

503-3 to 21 Advanced Sculpture II. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas to form content in the student's medium. Prerequisite: consent of major adviser.

504-3 to 21 Advanced Ceramics II. Art studio course directed toward individual research in the student's major field. Coursework is designed to assist the student's discovery of ceramic form and content as applied to personal artistic expression. Emphasis upon the development of creative studio research techniques and seminar-type experiences exploring historical and contemporary issues as they relate to ceramic art. Studio fee \$100 per semester. Prerequisite: consent of major adviser.

505-3 to 21 Advanced Metalsmithing II. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Studio fee \$6 per semester hour. Prerequisite: consent of major adviser.

506-3 to 21 Advanced Fibers II. Art studio course directed toward individual research in the student's major field. Coursework is designed to assist the student's discovery of fibers and content as applied to personal artistic expression. Emphasis upon development of creative studio research techniques and seminar-type experience exploring historical and contemporary issues as they relate to fibers. Studio fee \$10 per semester hour. Prerequisite: consent of major adviser.

507-3 to 6 (3, 3) Readings in Art History. Individual assistance and investigation to discover new meaning and involvement in

graduate studio work through the literature of art.

508-2 to 9 (2 to 3, 2 to 3, 2 to 3) Research in Art Education. Each student demonstrates via class presentations, a term paper, surveys of research reports and formulations of research designs, an understanding of advanced art education research procedures, analyses and implications; new process and product research techniques; and research in artistic creativity, perception, and the evolution of art images. Prerequisite: consent of instructor.

514-3 to 21 Glass II. An advanced glass course intended to increase the student's knowledge of the potential of glass as a medium of creative expression and to refine studio skills associated with the material. Coursework will include the investigation of historical and contemporary solutions to aesthetic problems related to the medium. Studio fee \$25 per semester. Prerequisite: consent of major adviser or consent of instructor.

517-3 to 6 (3, 3) Concepts in Art History. Group seminar to discuss and present aspects of the history of art in relation to both traditional and contemporary artistic concerns.

518-2 to 9 (2 to 3, 2 to 3, 2 to 3) Seminar in Art Education. Each student shows evidence, via class presentation, a term paper and evaluations of individual and group projects, an understanding of important literature; the latest developments and trends in philosophical, psychological, and sociological concepts in art education and methods for developing rationale for art curriculum and instruction programs. Prerequisite: consent of instructor.

599-2 to 6 Thesis. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

dents will be assessed a transportation fee. In addition, certain courses may require the purchase of additional materials and supplies, generally \$1 to \$5 in total cost.

400-4 Plant Anatomy. An introduction to cell division, development and maturation of the structures of the vascular plants. Laboratory. Prerequisite: 200 or consent of instructor.

404-4 The Algae. A phylogenetic approach to the study of algae with emphasis on comparative cytology, morphology, and ecology. Laboratories include a detailed survey of freshwater algae and a general treatment of representative marine forms. Two lectures and two two-hour laboratories per week. Prerequisite: 204 and 205 or consent of instructor.

405-4 The Fungi. A survey of the fungi—their structure, development relationships, ecological roles, and economic importance. Two lectures and two laboratories. Prerequisite: 204 or equivalent.

406-3 Bryology. Structure, development, and relationships of the liverworts, hornworts, and mosses. Two lectures and one laboratory per week. Prerequisite: 204 or equivalent.

409-3 Field Mycology. The taxonomy, ecology, and distribution of fungi in southern Illinois and environs with emphasis on techniques of specimen collection, preservation, identification, and recognition. Prerequisite: 200; 204 recommended.

410-3 Taxonomy and Ecology of Bryophytes and Lichens. Floristic studies of the moss, liverwort, hornwort, and lichen communities of southern Illinois. Prerequisite: 200 or equivalent, or consent of instructor.

411-3 Morphology of Ferns and Fern Allies. The study of external form, internal structure, and relationships of ferns and fern allies. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

412-3 Morphology of Gymnosperms. The study of external form, internal structure, and relationships of gymnosperms. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

413-3 Morphology of Angiosperms. The study of external form, internal structure, and relationships of the flowering plants. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

414-3 Paleobotany. (Same as Geology 414.) The study of external form, internal structure, and relationships of plant fossils. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

421-4 Botanical Microtechnique. Introduction to practical methods of preservation and preparation of plant materials for laboratory and microscopic study. Paraffin and plastic embedding, and sectioning techniques, and use of general and histochemical stains stressed. Includes chromosome squashing, whole-mount preparation, photomicrography,

Biology

There is no graduate program in biology (see Chapter 2 for biological sciences).

Botany

For all field courses in botany, stu-

and other techniques. One lecture and three laboratories per week. Prerequisite: 200 or equivalent.

425-10 (5,5) Advanced Plant Physiology.

(a) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. (b) Physics of plants; membrane phenomena; water relations; mineral nutrition. Prerequisite: 320 and consent of instructor.

439-2 Natural Areas and Rare and Endangered Species. Evaluation of the natural area preservation concept with emphasis on how to detect natural areas and methods to preserve them. Emphasis on the rare and endangered species program, its significance, and its methodology. Prerequisite: 304, Biology 307.

440-3 Grassland Ecology. A study of grassland structure and function in relation to various biotic and abiotic factors. Cost of field trips (\$5) and textbooks must be incurred by the student. Prerequisite: 304 and Biology 307 or equivalents.

443-4 Forest Ecology and Reclamation. Soil, climatic, and genetic factors affecting tree distribution and growth in disturbed and natural habitats. Saturday field trips. Prerequisite: Biology 307 or equivalent.

444-4 Analysis and Classification of Vegetation. Includes concepts and analytical methods pertaining to plant community energetics, nutrient dynamics, succession, vegetation classification and niche theory. Laboratory will include the application of these concepts and methods to field situations. Cost of textbooks and travel fee (\$15) must be incurred by the student. Prerequisite: Biology 307 or equivalent.

446-4 Tropical Ecology. Two weeks of marine ecology on the atolls and extensive barrier reef off the coast of Belize, British Honduras, and two weeks of terrestrial ecology at several locations inland. Cost varies yearly. Summer. Prerequisite: advanced undergraduate or graduate standing in one of the biological sciences, and concurrent enrollment in Zoology 446.

447-2 to 6 Field Studies in Latin America. Two to six weeks of intensive field work to acquaint students with the flora and vegetation in various environments of Latin America and with ecological and taxonomic field techniques. Cost varies with type of study and location. Transportation cost: \$80. Prerequisite: advanced standing in one of the biological sciences and consent of instructor.

448-3 to 8 Field Studies in the Western United States. Three to six weeks of intensive field work designed to acquaint students with the flora, vegetation, and environments of the Rocky Mountains and adjacent areas. Both ecological and taxonomic field methods are emphasized. Transportation cost (\$100), travel expenses, and textbooks must be incurred by the student. Prerequisite: 304, Biology 307 or equivalents, and consent of instructor.

449-2 Elements of Taxonomy. Principles of taxonomy including historical sketch, phyletic concepts, classical and experimental methods. One lecture and three laboratory hours per week. Prerequisite: 304 or equivalent, or consent of instructor.

450-2 Plant Geography. World distribution of plants related to environmental, floristic, and historical factors. Prerequisite: interest in biology.

451-4 Upland Flora. The taxonomy, ecology, and distribution of the natural vegetation in and around upland habitats of the Mississippi Basin. Prerequisite: 304 or GSA 303 or consent of instructor.

456-4 Introductory Pathology. A study of plant diseases caused by fungi, bacteria, and viruses. Special attention given to diseases of southern Illinois plants. Laboratory and field trips.

457-2 Advanced Forest Pathology. A survey of recent literature on major forest diseases with emphasis on host-parasite interactions and disease control. Students will develop detailed literature reviews on selected pathology problems and design experiments for solving these problems. Two lectures per week. Prerequisite: 357 or consent of instructor.

460-3 Application of Statistical Techniques in Botanical Research. Techniques of data handling and graphical representation, use of statistical tests, design of experiments and interpretation of results, and preparation of scientific papers. Students will choose individualized projects in the greenhouse, laboratory, field, computing center, or library. Two lectures per week plus conferences on projects. Prerequisite: ten hours in botany or equivalent.

462-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Curriculum, Instruction, and Media 427.) Specifically designed to develop those cognitive processes and concepts needed by elementary teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

484-3 Palynology. (See Geology 484.)

485-2 Botanical Literature. A survey of the major classical and modern writings in the botanical sciences. This includes a consideration of the primary subdivisions; systematics, structure, physiology, genetics, and ecology. In addition, periodicals will be treated. Prerequisite: consent of instructor.

490-3 Photographic Methods in Scientific and Biological Photography. Black and white and color. Specimen photography, macrophotography. Slides for presentation, materials and methods used in scientific publications. Prerequisite: consent of instructor.

491-3 Scientific Illustration. Materials and methods used in illustrating scientific publications including two-dimensional graphs, maps, lettering, and line drawings. Three dimensional techniques will also be covered. Prerequisite: consent of instructor.

492-2 to 6 Honors in Botany. Individual research problems available to qualified juniors and seniors. Prerequisite: consent of department chairperson.

500-3 Advanced Plant Anatomy. The study of advanced topics in the anatomy of seed plants. Emphasis is on trends in and adaptive nature of evolutionary modifications of anatomical features and the application of anatomical data to plant systematics. Two lectures and one laboratory per week. Prerequisite: 400.

503-10 (5,5) Advanced Angiosperm Taxonomy. Systematic treatment of every family of flowering plants in the world. Must be taken in sequence. Prerequisite: consent of instructor.

524-2 Advanced Plant Genetics. A consideration of incompatibility systems, paramutation, cytoplasmic inheritance, developmental genetics, and other genetic topics as they occur in higher plants. Prerequisite: Biology 305 or equivalent.

525-3 Cytology. (Same as Zoology 525.) An analysis of the subcellular and cytochemical organization of the cell. Structural-functional aspects of organelles, membranes, and other cellular components, their relationship to the metabolic nucleus, substructural organization of hereditary materials, and subcellular aspects of mitosis and meiosis are emphasized. Two lectures and one laboratory per week.

526-4 Cytogenetics. A study of structure, transmission, and mutation of nuclear and cytoplasmic genetic elements, with emphasis on the utilization of structural changes in chromosomes and of changes in chromosome number in theoretical and applied genetics. Two lectures and two laboratories per week. Prerequisite: Biology 305 and 306, or equivalent.

532-3 Embryogenesis and Organography of Plants. A study of the developmental anatomy and comparative morphology of embryophytes, with emphasis on analysis of homologous versus analogous structure. In particular, the following aspects of organ development will be considered: embryological origin, cellular pattern of formation, cytochemical and histological characterization, and diversification in form. Laboratory will allow students to observe the organographic features discussed. Prerequisite: 320, 400, or consent of instructor.

533-4 Plant Growth and Morphogenesis. A study of the role of the environmental variables (light, temperature, etc.) and phytohormones in the growth and morphogenesis of intact plants and tissue cultures. Analysis of growth and effects of these regulators will be the subject of the individualized laboratory study on a plant of the student's choice. Prerequisite: 320 or consent of instructor.

535-2 Energetics of Aquatic Ecosystems. Energy flows in aquatic habitats; photosynthesis and respiration rate determinations under natural and laboratory conditions; determination of dominant genera in the communities; daily and annual energy budgets; factors influencing utilization of light by

biotic systems; influence of daily and annual energy budgets on stratification on current systems, and on seasonal succession in the community. Prerequisite: consent of instructor.

542-2 Biosystematics. An examination of species concepts and factors affecting the formation of species. Evidence from the fields of ecology, cytotaxonomy, genetics, and numerical taxonomy are discussed as well as the phenomena of hybridization, polyploidy, and apomixis. Two lecture and two laboratory hours per week. Prerequisite: consent of instructor.

543-2 Tree Growth. Physiological aspects of tree growth and development. Phases of the life cycle from germination to seed production will be analyzed for effects of light, temperature, moisture, nutrients, mycorrhiza, wind, air pollution, and other factors. Two lectures per week. Prerequisite: 320 or 443 or Forestry 331 or equivalent.

551-3 Upland Flora. The taxonomy, ecology, and distribution of the natural vegetation in and around upland habitats of the Mississippi Basin. Prerequisite: 304 or GSA 303 or consent of instructor.

552-3 Lowland Flora. The taxonomy, ecology, and distribution of the natural vegetation in and around aquatic and lowland habitats of the Mississippi Basin. Prerequisite: 304 or GSA 303 or consent of instructor.

570-2 to 3 Graduate Readings in Botany. A course of individually assigned readings in botanical literature. Every semester. Prerequisite: consent of instructor.

580-1 to 6 (1 per semester) Seminar. One hour discussion of current topics in biology. Every semester. Graded *S/U* only.

584-3 Advanced Palynology. (See Geology 584.)

585-2 to 6 (2 per semester) Advanced Topics in Systematics. A series of systematic topics related to research techniques: (a) botanical nomenclature; (b) botanical Latin; (c) botanical keys and descriptions.

589-1 to 12 (1 per topic per semester) Seminars in Botany. Studies of current and historical research and literature in various topic areas of botany: (a) ecology; (b) bryology; (c) paleobotany; (d) anatomy; (e) systematics; (f) phycology; (g) mycology; (h) pathology; (i) physiology; (j) morphology.

590-1 to 3 Introduction to Research. General introduction to research techniques. Techniques to be determined by instructor and students. Every semester. Prerequisite: consent of instructor.

591-2 to 9 Research. Assignments involving research and individual problems. (a) anatomy; (b) bryology; (c) ecology; (d) morphology; (e) mycology; (f) paleobotany; (g) pathology; (h) photography; (i) phycology; (j) physiology; (k) systematics. Master's students may use this for their research for their thesis. Every semester. Prerequisite: consent of instructor.

599-2 to 9 Thesis. Course to be taken in the preparation of the master's thesis. Every semester. Prerequisite: consent of instructor.

600-1 to 36 (1 to 12 per semester) Dissertation. Course to be taken in the research for and in writing of the doctoral dissertation. Every semester. Prerequisite: consent of instructor.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Behavior Modification

(See Rehabilitation Institute)

Business Administration

Students desiring to enroll in these courses must be admitted to the Master of Business Administration or Master of Accountancy degree program or have permission of the associate dean for graduate study in business administration or accountancy.

410-3 Financial Accounting Concepts. (Same as Accounting 521.) Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset, liability, and equity valuations, and income determination is stressed. Prerequisite: enrollment in MBA program or consent of department.

430-3 Business Finance. An introductory course combining both a description of the structure of business financing and an analysis of functional finance from a managerial viewpoint. Prerequisite: enrollment in MBA program or consent of department.

440-3 The Management Process. Analysis of management theories and the administrative process. Specific managerial activities are analyzed and discussed. Functional relationships in administered organizations are explored. Prerequisite: enrollment in MBA program or consent of department.

450-3 Introduction to Marketing Concepts. An overview of the role of marketing within an economic system and of the major marketing activities and decisions within an organization. Emphasis is on developing an understanding of the marketing process. Prerequisite: enrollment in MBA program or consent of department.

451-5 Methods of Quantitative Analysis. (See Mathematics 457.)

500-3 Research Applications in Business and Organizations. The analysis of actual problems in research: project design, data collection, analysis, interpretation, dissemination, and application in business and organizational settings. This includes an understanding of the proper utilization of appropriate research statistics and involves use of the computer for problem solving. Three lecture and two laboratory hours per week. Prerequisite: enrollment in MBA program or consent of department.

501-3 Operations Research I. A survey of quantitative approaches to business problems with specific emphasis on problem formulation, model building, and model solution. Topics include linear programming, transportation models, dynamic programming, inventory theory. Prerequisite: enrollment in MBA program or consent of department.

502-3 Business in our Capitalistic Society. Study of the external environment in which business in America operates; social, political, legal, and ethical dimension, interrelationships, and requirements. Prerequisite: enrollment in MBA program or consent of department.

510-3 Managerial Accounting and Control Concepts. (Same as Accounting 531.) Basic cost concepts, measures, methods, and systems of internal accounting useful for managerial planning, implementation, control, and performance evaluation. Includes cost analysis relevant for non-routine decision-making. Prerequisite: enrollment in MBA program or consent of department.

511-3 Accounting Theory. (Same as Accounting 522.) Contemporary advanced accounting theory, including controversial issues with emphasis on net income determination and asset valuation; particular attention given to current publications of the professional and government agencies. Prerequisite: enrollment in MBA program or consent of department.

512-3 Auditing Concepts. (Same as Accounting 561.) Course examines basic auditing concepts, objectives, and methodology with frequent reference to official auditing pronouncements and current literature. Prerequisite: enrollment in MBA program or consent of department.

513-3 Accounting Concepts in Business Organizations. Accounting theory and practice as it applies to business and other organizations. Emphasis is on current problem areas in accounting and on research methods being used to resolve these problems. Prerequisite: enrollment in the DBA program or consent of department.

514-3 Controllorship. (Same as Accounting 532.) Function of controllorship in a business organization; analysis of the duties and responsibilities of a controllor; contribution of a controllor to effective planning, coordination, and control through accounting, case studies.

Prerequisite: enrollment in MBA program or consent of department.

515-3 Accounting Information Systems Concepts. (Same as Accounting 551.) Basic concepts necessary to the design and operation of information systems for integrated business operations. Survey of the current status of technology and design for computer based systems. **Prerequisite:** enrollment in MBA program or consent of department.

516-3 Tax Concepts. (Same as Accounting 541.) Provides the accounting or business student with an understanding of the nature of the federal tax law and an appreciation of the law's impact upon business decisions. **Prerequisite:** enrollment in the MBA program or consent of department.

519-3 Seminar in Accounting. (Same as Accounting 590.) Discussion of current accounting theories, principles, standards, and problems. **Prerequisite:** enrollment in MBA program or consent of department.

521-3 Business Conditions Analysis. Emphasis is given to macro-economic theory as it affects economic forecasting. Particular emphasis is given to GNP forecasting models, industry forecasts, and forecasting for the firm. **Prerequisite:** enrollment in MBA program or consent of department.

526-3 Managerial Economics. Develops conceptual framework for business decision making with emphasis on demand, costs, prices, and profits. **Prerequisite:** enrollment in MBA program or consent of department.

530-3 Financial Management. A study of financial principles and practices with special emphasis on their relation to managerial planning and control. **Prerequisite:** enrollment in MBA program or consent of department.

531-3 Advanced Financial Management. An evaluation of selected financial policies connected with the acquisition and disposition of funds by the firm. An emphasis is placed on quantitative solutions to these problems. **Prerequisite:** enrollment in MBA program or consent of department.

532-3 Financial Institutions and Markets. The principal financial institutions and markets will be studied in relation to their contribution to the efficient operation of the individual enterprise and the total company. **Prerequisite:** enrollment in MBA program or consent of department.

533-3 Investment Concepts. A study of fixed return and variable return securities, investment services, industry and issue analysis, empirical studies of groups and individual stock price movements. **Prerequisite:** enrollment in MBA program or consent of department.

534-3 Financial Decision Making. Study of the scope and nature of advanced financial decision making and the application of quantitative tools and techniques to decisions relating to working capital, fixed assets, cost of capital, value of the firm, and financial

structure. **Prerequisite:** enrollment in the DBA program or consent of department.

536-3 Advanced Financial Analysis. Deals with examination of classical and various modern treatments of investment, valuation, cost of capital, and capital structure. Portfolio, state-preference, capital markets, options pricing, mergers, and exchange rate theories are explored. **Prerequisite:** enrollment in MBA or DBA program or consent of department.

539-3 Seminar in Finance. Current issues and practices in finance. Each student will select a problem for intensive exploration and report the findings to the class in two minor and one major report. **Prerequisite:** enrollment in MBA program or consent of department.

540-3 Managerial and Organization Behavior. Case analyses of human problems in the business organization. Application of findings of behavioral science research to organization problems. Development of direction and leadership skills. **Prerequisite:** enrollment in MBA program or consent of department.

541-3 Operations Research II. Continuation of the survey of topics and approach taken in 501. Problem formulation; model building and elementary mastery of state-of-the-arts solution techniques are emphasized. Topics include interger programming, traveling sales representative problems, probabilistic programming, queuing, simulation and inventory theory. **Prerequisite:** enrollment in MBA program or consent of department.

543-3 Personnel Management. An overview of the field of personnel administration, based on a review of the relevant literature and on practice in simulations of problems typically encountered in the field. **Prerequisite:** enrollment in MBA program or consent of department.

544-3 Production-Operations Management. A graduate level survey of the design operation and control of systems or processes by which materials, labor, and capital are combined in an organized way with the objective of producing goods or services. Techniques mastered in 501 and 541 will be heavily relied upon such as linear and dynamic programming, network analysis, and queuing theory. Topical coverage includes the systems concept, planning, forecasting, job design, location, layout logistics, scheduling and production, inventory, quality, lab and cost control. **Prerequisite:** enrollment in MBA program or consent of department.

545-3 Organization of Complex Systems. Analysis of organizations as complex systems. Major emphasis is placed on the latest research developments which integrate micro and macro perspectives of organizations. Additional emphasis is placed on a top management perspective of the organization. **Prerequisite:** enrollment in the DBA program or consent of department.

546-3 Leadership and Managerial Behavior. This course will concentrate on leader

and manager behavior at middle and upper organizational levels. Emphasis will be placed on leader and manager effectiveness and the factors that impact effectiveness. Prerequisite: enrollment in MBA program or consent of department.

549-3 Seminar in Administration. Study of contemporary administrative theory and practice with focus on certain special topics, new or current trends, and research. Individual and group projects are emphasized. Specific topics to be covered will be determined by the instructor in consultation with students. Prerequisite: enrollment in MBA program or consent of department.

550-3 Marketing Management. A managerial approach to the study of marketing. Emphasis is on the nature and scope of the marketing manager's responsibilities and on marketing decision making. Prerequisite: enrollment in MBA program or consent of department.

551-3 Product Strategy and Management. Designed to treat product management and its relationships with business policies and procedures; the development of multiproduct strategies, means of developing such strategies, and the problems and methods of commercialization. Prerequisite: enrollment in MBA program or consent of department.

552-3 Advanced Marketing Research and Analysis. The development of advanced procedures, methods and theory of quantitative and qualitative analysis of primary and secondary marketing data. Prerequisite: enrollment in MBA program or consent of department.

555-3 Consumer Behavior. Emphasis on theories and experimental techniques drawn from the behavioral sciences. Prerequisite: enrollment in MBA program or consent of department.

556-3 Marketing Strategy for Organizations. Analysis of the marketing system within a changing environment. Includes consideration of institutional relationships and policy formulation as affected by business, government, and social organization. Additional emphasis on the potential relationships and possible technique transfers between marketing and other functional areas of business. Prerequisite: enrollment in the DBA program or consent of department.

558-3 Promotional Theory and Strategy. The study of the promotional elements of advertising, personal selling, sales promotion, and publicity and how each of these elements relate to marketing and the business environment. Consideration is given to key concepts, theories, and practices of the components of the promotional mix. Students will be expected to undertake research on selected topics. Prerequisite: enrollment in MBA program or consent of department.

559-3 Seminar in Marketing. Study of current issues and problems in marketing and an evaluation of contemporary marketing

theory and practice. Prerequisite: enrollment in MBA program or consent of department.

571-3 Mission and Domain Analysis. A review of the factors influencing how managers formulate or change an organization's mission and domain. Topics include goal formulation, mission and scope definition, defining relevant environments, and strategic evaluation as inputs to the process of defining the long-range roles of private and public organizations in the broader socio-economic system. Prerequisite: enrollment in MBA or DBA program or consent of department.

572-3 Forecasting and Decision-Making Models. An analytic approach to (a) forecasting conditions that will impact on the organization and (b) evaluating the possible outcome of alternative actions. Particular emphasis is given to forecasting models, decision theory, simulation and formal planning models. Prerequisite: enrollment in MBA or DBA program or consent of department.

573-3 Planning Systems and Strategic Decisions. A critical review of theory and research on the structure, content, and process of strategic decisions. The design and implementation of planning systems also is emphasized. Prerequisite: enrollment in MBA or DBA program or consent of department.

574-3 Advanced Research Methods in Business Administration. A capstone research course in business administration that exposes the student to a full range of research experiences. Emphasis is on integrating learning and creative thinking in the execution of the research process. Prerequisite: enrollment in DBA program.

580-3 International Business Operations. Course is designed to provide an overview of the international dimension of a firm's operations. Alternative methods for reaching foreign markets, operational adjustments and specific problems in dealing with foreign environments, are the principal areas of consideration. Prerequisite: enrollment in MBA program or consent of department.

591-3 Independent Study. Directed independent study in selected areas of business administration. Prerequisite: enrollment in MBA program or consent of department.

598-3 Business Policies. Study of the development and evaluation of business strategies and policies as they relate to the overall performance of the firm within its environment. Knowledge of the functional areas of administration, available business data, and analytical tools will be utilized in solving comprehensive business cases and simulation games. Prerequisite: enrollment in MBA program or consent of department.

599-3 to 6 Thesis. Prerequisite: enrollment in MBA program or consent of department.

600-1 to 24 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Business Administration degree. Prerequisite: advancement to candidacy for the DBA program.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Accountancy

(See course listing under Department of Accountancy.)

Administrative Sciences

There is no graduate program offered through the Department of Administrative Sciences. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

431-3 Organizational Behavior II. The study of modern theories of complex organizations. Particular emphasis is placed on open-systems perspectives of administrative theory and the adaptation of the organization to a changing environment. Prerequisite: 341 and junior standing or consent of department. Elective Pass/Fail.

453-3 Management Science II. A continuation of 352. Mathematical model building in organizations and solution techniques commonly used to solve such models. An extension of topics in deterministic and probabilistic modeling introduced in 352. Prerequisite: 352, junior standing or consent of department.

456-3 Management Systems Applications. Investigation of selected systems and computer based methods for aiding management decision-making. Topics include systems analysis applications, simulation, and decision models. Prerequisite: 345, 352 or 452 and junior standing or consent of department. Elective Pass/Fail.

474-3 Management Responsibility in Society. Analysis of the cultural, social, political, economic, and immediate environment of the organization. Particular emphasis is given to the manner in which the manager adapts to and is influenced by the environment and its conflicting demands. Prerequisite: senior standing or consent of department. Elective Pass/Fail.

479-3 Problems in Business and Economics. (Same as Economics 479.) Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 208 or Economics 308, Economics 215, Marketing 304, and junior standing or consent of department. Elective Pass/Fail.

481-3 Administrative Policy. Development of organizational strategies and policies within environmental and resource limitations. Emphasis upon the application and integration of basic principles from all areas of business by case problem analysis, simulation exercises, and group participation. Not for graduate credit. Prerequisite: senior standing, 304, 318, Finance 320, Marketing 304, or equivalent. Elective Pass/Fail.

483-3 Production Planning, Scheduling, and Control. In-depth study of analytical planning, scheduling, and control theory and techniques in the context of production/operations systems. Case exercises will be utilized to illustrate production management problems and methods. Prerequisite: 318, 352, junior standing or consent of department. Elective Pass/Fail.

485-3 Organizational Development. Analysis of problems in personnel management with emphasis on current trends and techniques. Case problems, special reports, and experiential approaches are used as a basis for examining ways of using an organization's human resources to best advantage. Prerequisite: 341, junior standing or consent of department. Elective Pass/Fail.

489-6 (3, 3) Seminar in Administrative Sciences. Investigation of selected special or advanced topics in seminar format. Topics may include, but are not limited to: management responsibility in society, wage and salary administration, health services administration, data processing management, current issues in management, etc. (a) management, (b) decision sciences. May be taken singly. Prerequisite: consent of department chairperson and instructor. Elective Pass/Fail.

491-1 to 6 Special Topics in Administration. Utilizes special faculty resources to enable individually, the exploration of an advanced area of study through research by means of data analysis and/or literature search. Prerequisite: consent of department chairperson and instructor.

Finance

There is no graduate program offered through the Department of Finance. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

421-3 Management of Business Finance. The principal problems of managing the financial operations of an enterprise. Emphasis upon analysis and solutions of problems pertaining to policy decisions. Prerequisite: 320.

422-3 Acquisitions, Divestments, and Recapitalization. A study of the issues involved in developing financial plans for external growth, divestment, and recapitalization. The case approach is emphasized in the course. Prerequisite: 320.

424-3 Portfolio Theory and Management.

Examination of modern concepts relating to management of security portfolios. Topics include security analysis, Markowitz Portfolio Theory, efficient market hypothesis, portfolio performance measurement, risk, and portfolio construction. Prerequisite: 320, 323, or consent of instructor.

474-3 Working Capital Management. Short-term budgeting and forecasting techniques used in business; alternative approaches to working capital management including consideration of certainty, risk, and uncertainty; theory and applications in management of cash, marketable securities, accounts receivables, inventory, banking relationships, and short-term sources of funds. Prerequisite: 320.

475-3 Forecasting and Capital Budgeting. Long-term forecasting techniques used in business; alternative approaches to capital structure decisions, cost of capital measurement, and performance measurement for investment decisions including mergers and leasing; explicit consideration of certainty, risk, and uncertainty in investment analysis; theory and applications in private and public sectors. Prerequisite: 320.

476-3 Problems in Labor Law. Social, economic, and legal evaluations of recent labor problems, court decisions, and legislation. Concern is on long-run legislative impact on manpower planning, dispute settlement, and utilization of employment resources. Elective Pass/Fail.

480-3 International Financial Management. Financial behavior of multinational firms. Emphasis on the modifications of conventional financial models to incorporate uniquely foreign variables. Prerequisite: 320.

Marketing

There is no graduate program offered through the Department of Marketing. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

401-3 Retail Management. Designed to present the basic principles in decision areas such as location, layout, organization, personnel, merchandise control, sales promotion, advertising, etc. Retail merchandising through a managerial perspective. Prerequisite: 304 and junior standing or higher.

435-3 International Marketing. Analysis of international operations. Emphasis on the factors influencing marketing to and within foreign countries and the alternative methods of operations open to international firms. Prerequisite: 304 and junior standing or higher.

438-3 Sales Management. Analysis of the management of the sales effort within the marketing system. Philosophies, concepts, and judgement criteria of the sales function in

relationship to the total marketing program. Prerequisite: 304 and Administrative Sciences 304 or 301 and junior standing or higher.

439-3 Industrial Marketing. Analysis of decision criteria related to the marketing of industrial products. Emphasis on program development, formulation of a marketing mix, and the behavioral relationships in the modern industrial organization. Prerequisite: 304 and junior standing or higher.

452-3 Physical Distribution Management. Integration of physical distribution activities of the firm into a system. Transportation and location as elements of the system. Inventories and service as constraints upon the system. Planning, operation, organization, and management of the system. Prerequisite: 304 and junior standing or higher, or consent of department.

463-3 Advertising Management. Advertising from the viewpoint of business management. Develops an understanding of the role of advertising under various conditions. Problems of integrating advertising strategy into the firm's total marketing program. Prerequisite: 304 and 363 and junior standing or higher.

493-3 Marketing Policies. A comprehensive and integrative view of marketing policy formulation. Marketing decisions analyzed and discussed. Prerequisite: 329, 363, and 390 (not more than one to be taken concurrently) and junior standing or higher.

499-1 to 6 (1 to 3, 1 to 3) Marketing Insights. Provides the student an opportunity to participate in an internship program, independent study, or seminar coinciding with areas of interest. May be repeated for credit only when topics vary. Prerequisite: junior standing or higher, approval of the instructor, and the department chairperson in the semester prior to enrollment.

Business Education

(See Vocational Education Studies)

Chemistry and Biochemistry

All laboratory courses in chemistry and biochemistry require the student to purchase either special notebooks or workbooks, costing within the range of \$1.50 to \$8.50. All students enrolled in a chemistry class that includes a laboratory session will be assessed a breakage charge for all glassware broken. This policy will apply to undergraduate and graduate students.

411-3 Intermediate Inorganic Chemistry. Fundamentals of inorganic chemistry, covering bonding and structure, coordination compounds, and the chemistry of some familiar and less familiar elements. Three lectures per week. Prerequisite: 460 or 462a or concurrent enrollment in either.

412-2 Inorganic Preparations. Introduction to modern techniques of syntheses and compound characterization. Synthetic techniques include handling of air-sensitive materials, electrosyntheses, high-temperature reactions, and chemistry of non-aqueous solvents plus modern spectroscopic techniques for characterization. Prerequisite: 226, 347, and 349.

416-3 X-Ray Crystallography. (See Geology 416.) Prerequisite: 224 and 225, or 222b, one year of college physics and Mathematics 150.

431-4 Environmental Analytical Chemistry. Practical applications of common instrumental and wet methods to the determinations of chemical substances in common natural and commercial materials. Techniques will include titrimetry; quantitative transfer of liquids and solids; gas, thin-layer and ion-exchange chromatography; atomic absorption; flame photometry; ion selective electrode potentiometry; and spectrophotometry. The course is intended for senior-level and graduate students in disciplines other than chemistry who desire to know the practical aspects of laboratory measurements. The course is not applicable to a major in chemistry. One lecture, one laboratory-lecture, and two three-hour laboratories per week. Prerequisite: 224 and 225, or 222a,b or nine hours of chemistry excluding general studies courses. Elective Pass/Fail.

434-4 Instrumental Analytical Chemistry. Theory and practice of modern instrumental measurements, including emission and absorption spectroscopic, electroanalytical, and chromatographic methods, and an introduction to applied electronics. Two lectures and two three-hour laboratories per week. Prerequisite: one semester of physical chemistry or concurrent enrollment in 462a or 460.

436-3 Analytical Separations and Analyses. A study of the analyses of complex materials, usually inorganic with emphasis on separations, functional-group chemical analyses, and instrumental applications. Two lectures and one three-hour laboratory per week. Prerequisite: 226 and one semester of physical chemistry which may be taken concurrently.

446-4 Qualitative Organic Analysis. A systematic study of the separation and identification of organic compounds. Two lectures and six hours of laboratory per week. Prerequisite: 226 and either 346 and 349 or consent of instructor.

450-4 Survey of Biochemistry. Function and metabolism of amino acids, proteins, enzymes, carbohydrates, lipids, and nucleic acids. For preprofessional students, chemistry majors, biology majors, and others desiring a

terminal one-semester survey of biochemistry. Three lectures and one laboratory per week. Prerequisite: 346 and 347 or 349.

451-6 (3,3) Biochemistry. (a) Chemistry and function of amino acids, proteins, and enzymes; enzyme kinetics; chemistry, function, and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function, and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a, b sequence. Prerequisite: one year of organic chemistry.

455-4 Biochemistry Laboratory. Modern biochemical laboratory techniques for isolation, purification, and characterization of constituents of living cells and for investigations of pathways, kinetics, energetics, and regulatory mechanisms related to metabolism and enzymic activity. One lecture and eight hours of laboratory per week. Prerequisite: 451a and 226 or concurrent enrollment; graduate standing in the Department of Chemistry and Biochemistry or consent of the instructor.

460-4 Principles of Physical Chemistry. A one-semester course in physical chemistry designed especially for non-chemistry majors. Not for those who intend to be professional chemists. Three lectures and one three-hour laboratory per week. Prerequisite: 226 and Mathematics 150, 140, or 141. Elective Pass/Fail.

462-10 (5,5) Physical Chemistry. Four lectures and one three-hour laboratory per week. (a) Classical thermodynamics and its applications, statistical thermodynamics, and chemical kinetics. (b) Quantum mechanics of atoms and molecules, molecular spectroscopy. The laboratory work includes the analysis of data, computational techniques, and typical chemical measurements. Prerequisites: (a) 226, Mathematics 251; (b) 462a, Mathematics 305 recommended. Must be taken in a,b sequence.

471-2 Industrial Chemistry. A survey of modern industrial chemistry and an introduction to chemical research processes. Two lectures per week. Prerequisite: 346 and 347 or 349.

472-6 (3,3) X-Ray Crystallography. (See Engineering Mechanics and Materials 402.) Prerequisite: 462b and 463b.

489-1 to 3 Special Topics in Chemistry. Prerequisite: consent of instructor and chairperson.

490-2 Chemical Literature. A description of the various sources of chemical information and the techniques for carrying out literature searches. Two lectures per week. Prerequisite: 224, 225, 346 and 347 or 349.

491-2 History of Chemistry. The evolution of chemistry from ancient times until 1920. Two lectures per week. Elective Pass/Fail.

496-1 to 8 Undergraduate Research (Honors). Introduction to independent research under the direction of a faculty member culminating in a written report. Not for

graduate credit. Prerequisite: a 3.0 grade point average, five semesters of chemistry laboratory including one semester of physical chemistry, and consent of instructor and department chairperson.

502-3 Molecular Orbital Theory. An introduction to molecular orbital theory. Applications and limitations of various methods. Three lectures per week. Prerequisite: one year of undergraduate physical chemistry including quantum mechanics.

511-6 (3,3) Advanced Inorganic Chemistry. (a) Principles of group theory and their application to molecular structure, ligand field theory and its application and magnetic properties of matter. (b) Energetics, kinetics, and mechanisms of inorganic systems. Prerequisite: one year of physical chemistry, 411 or satisfactory completion of 500.

519-2 to 9 (2 to 3 per semester) Advanced Topics in Inorganic Chemistry. Metal ions in biological processes and other selected topics to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

531-3 Theory of Chemical Analysis. The phenomena utilized in analytical chemistry with emphasis on separations, organic reagents, and complex methods. Three lectures per week. Prerequisite: 436 or equivalent.

532-3 Analytical Chemistry Instrumentation. Theories of design and methods of interfacing components of instruments with applications to optimization of systems for determinations of chemicals in trace concentrations. Two lectures and one three-hour laboratory per week. Prerequisite: 434.

535-3 Advanced Analytical Chemistry. Theory and applications of chromatography; statistics; uses of laboratory computers in chemical instrumentation and data evaluation. Three lectures per week. Lectures will occasionally be used for laboratory operations. Prerequisite: 434.

539-2 to 9 (2 to 3 per semester) Advanced Topics in Analytical Chemistry. Selected topics of interest to practicing analytical chemist such as microanalytical chemistry, functional-group chemical determinations, absorption spectroscopy, and electroanalytical chemistry. Maximum credit nine semester hours. Prerequisite: 434.

541-3 Organic Structure and Reactivity. Structure and reactivity of organic compounds: steric, electronic, kinetic, and thermodynamic aspects. NMR, ESR, IR, and mass spectrometry in structure characterization. Prerequisite: master's degree in chemistry, or a grade of *B* or better in 446, or passing grade on the organic diagnostic examination.

542-3 Mechanistic Organic Chemistry. Reaction mechanisms in organic chemistry. Orbital symmetry, photochemistry, and the chemistry of the common transient intermediates. Prerequisite: master's degree in chemistry, or a grade of *B* or better in 446, or passing grade on the organic chemistry diagnostic examination.

543-3 Synthetic Organic Chemistry. Organic synthesis: classical and modern methods. Prerequisite: master's degree in chemistry, or a grade of *B* or better in 446, or passing grade on the organic chemistry diagnostic examination.

549-2 to 9 (2 to 3 per semester) Advanced Topics in Organic Chemistry. Specialized topics in organic chemistry. The topic to be covered is announced by the department. Maximum credit nine semester hours. Prerequisite: 542.

556-7 (3,4) Advanced Biochemistry. (a) Physical biochemistry-thermodynamics and kinetics of enzyme systems, physical characterization of biopolymers. (b) Protein structure, function and evolution; nucleic acid structure and function. Must be taken in a, b sequence. Prerequisite: 451a, b or equivalent and one semester of physical chemistry.

559-1 to 12 (1 to 3 per semester) Selected Topics in Biochemistry. Topic to be announced by the department. Maximum credit twelve semester hours. Prerequisite: 451b.

560-3 Introduction to Quantum Chemistry. Basic principles and applications of quantum mechanics to chemistry. Topics include operator and vector algebra, classical mechanics, angular momentum, approximate methods, hydrogen-like atoms, and molecular electronic structure. Three lectures per week. Prerequisite: one year of undergraduate physical chemistry.

562-6 (3,3) Advanced Molecular Spectroscopy. (a) Theory of rotational and vibrational spectroscopy, electronic spectroscopy of molecules, and group theory. (b) Magnetic resonance: general theory, spectral analysis, chemical shifts and coupling constants, exchange phenomena, FT methods, and ^{13}C NMR, EPR and hyperfine interactions. Three lectures per week. Prerequisite 560.

563-3 Quantum Mechanics of Radiation and Particles. An introduction to relativistic quantum mechanics and quantum field theory. Application to the interaction of electromagnetic radiation with matter. Three lectures per week. Prerequisite: 560 or consent of instructor.

564-3 Statistical Thermodynamics. Principles of statistical mechanics and applications to equilibrium and nonequilibrium systems. Topics include ideal gases, monatomic crystals, lattice statistics, the cluster method, correlation functions, Brownian motion, the Boltzmann equation, and the Kubo-Green technique. Three lectures per week. Prerequisite: 560 or consent of the instructor.

569-2 to 9 (2 to 3 per semester) Advanced Topics in Physical Chemistry. Topic to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

594-2 to 3 Special Readings in Chemistry. Assigned library work in any of the six fields of chemistry with individual instruction by a staff member. (a) Analytical, (b) biochemistry, (c) inorganic, (d) organic, (e) physical, (f)

history of chemistry. Maximum credit three hours.

595-1 Advanced Seminar in Chemistry. Advanced level talks presented by graduate students. (a) Analytical, (b) biochemistry, (c) inorganic, (d) organic, and (e) physical chemistry.

597-1 to 15 Professional Training. Experience in teaching of chemistry, instrument operation and special research projects. One hour required each semester in residence. Graded *S/U* only. Prerequisite: graduate standing.

598-1 to 50 (1 to 12 per semester) Research. Maximum credit 50 hours, except by permission of the student's graduate advisory committee. Graded *S/U* only. Prerequisite: consent of chairperson.

599-1 to 6 Thesis. A maximum credit six hours. Prerequisite: consent of chairperson.

600-1 to 30 (2 to 12 per semester) Dissertation-Doctoral. Requirement for Ph.D. degree, 24 hours. Maximum credit 30 hours, except by permission of the student's graduate advisory committee. Prerequisite: 598.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Cinema and Photography

Graduate work in the Department of Cinema and Photography is offered toward the Master of Fine Arts degree and the Master of Arts degree in public visual communications. Four hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

Students provide photographic materials for all cinema and photography production courses, students supply their own film photographic paper, certain specialized chemicals, a fully adjustable 35mm or 120 roll film camera, and \$15 additional cost for laboratory materials for each production course. In motion picture production courses, students provide their own film, processing, recording ma-

terials, and editing supplies. In courses which involve analysis and screening of a number of films, a cost of \$10 per course for screenings will be required.

401-3 Large Format Photography. Introduction to the aesthetics and techniques of large format (sheet film cameras) photography with emphasis on personal expression and commercial/professional applications. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 322 or concurrent enrollment and consent of department. Elective Pass/Fail.

402-3 Sensitometry. An advanced course dealing with the technical and visual applications of the black and white process. Explores the zone system, density parameter system, and practical chemistry. Also deals with the visual application of these systems. Prerequisite: 322.

403-3 Studio Portraiture. History, theory and practice of formal studio portrait photography. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

405-3 Commercial/Industrial Photography. History, theory and practice of commercial and industrial photography. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

406-3 Advertising/Illustrative Photography. History, theory and practice of photography as used for advertising, illustration and editorial purposes. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 405 and consent of department. Elective Pass/Fail.

407-3 Publications Photography I. History, theory, and practice of photographic news reporting with emphasis on production and design of picture stories and essays. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

408-3 Publications Photography II. History, theory and production of picture essays, including research, lay-out, captions and text. Black and white and color. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 407 and consent of department. Elective Pass/Fail.

415-3 Technical and Scientific Photography. History, theory and application of photographic research methods in science, technology and medicine. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory

materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

418-3 Documentary Photography. Survey of the history and theory of documentary still photography. Production of documentary photographic essays dealing in depth with an aspect of contemporary life. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

420-3 Experimental Camera Techniques. Experimental approaches to the creation of photographic images in the camera. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

421-3 Experimental Darkroom Techniques. Experimental darkroom manipulations of the straight camera image. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

422-3 Advanced Color Photography. Advanced study and production of color photographs with emphasis on experimental techniques using Dye Transfer, Kwik Proof and other forms of photo-mechanical reproduction. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

423-3 Reconstruction of Color. A study of the principle of color separation in photography as it relates to the processes of dye transfer, silkscreening, lithography, letter press, etching, and other reproduction processes. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322. Elective Pass/Fail.

425-3 to 9 Studio Workshop. An intensive workshop focusing on current trends in photography as a fine art. Students provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

452-3 Film Planning and Scripting. Analysis of both scripted and non-scripted films. Script as a basis for production. Practice in preparing film plans, treatments, storyboards and scripts. Students purchase texts. Prerequisite: 355 or consent of department. Elective Pass/Fail.

454-3 Graphic/Animated Film Production. Practical course for visual expression related to the graphic film; symbology, composition, kinestasis, animation, typography, color and materials. Students purchase texts and materials. Prerequisite: 355 and either 465 or consent of department. Elective Pass/Fail.

455-3 Film Production III. Advanced production by individuals or crews of 16 mm

sound films from pre-production through shooting. Intensive study of budgeting, production planning, scripting, casting, location and studio shooting techniques, equipment rental, lighting, and double system sound filming. Students provide film stock, processing, and sound materials. Screening fee. Prerequisite: 356, 452, and consent of department. Elective Pass/Fail.

456-3 Film Production IV. Continuation of 455 through editing and post production to a first answer print. Intensive study of editing, sound mixing, laboratory procedures, and distribution problems. Students provide expendable editing and sound materials and are responsible for laboratory costs. Screening fee. Prerequisite: 455 and consent of department. Elective Pass/Fail.

460-3 History of the Silent Narrative Film. Study of the theatrical film from its beginning to 1930. Screening fee. Students purchase texts. Elective Pass/Fail.

461-3 History of Sound Narrative Film: 1927-1945. Study of the theatrical sound film from its beginnings to 1945. Screening fee. Students purchase texts. Elective Pass/Fail.

462-3 History of the Documentary Film. Study of the development of the non-fiction film with emphasis on the documentary. Screening fee. Students purchase texts. Elective Pass/Fail.

463-3 History of the Experimental Film. Study of experimentation in cinema from the turn of the century, through the avant garde periods, to contemporary independent films. Screening fee. Students purchase texts. Elective Pass/Fail.

464-3 History of the Contemporary Film. Study of the major movements in theatrical motion pictures from neo-realism to the present. Screening fee. Students purchase texts. Elective Pass/Fail.

465-3 History of the Animated Film. Study of the history, techniques, and aesthetics of the graphic/ animated film. Students purchase texts. Screening fee. Elective Pass/Fail.

468-3 Advanced Cinema Theory. An intensive study of the major cinema theoretical approaches that center upon the writings by Eisenstein, Bazin, and recent sign and system scholars. Films important to or exemplary of the theories are screened. Screening Fee. Students purchase texts. Prerequisite: 368. Elective Pass/Fail.

470-1 to 9 (1 to 9, 1 to 9, 1 to 9, 1 to 9) Advanced Topics. An advanced course concentrating on special topics in cinema and photography. Topics vary and will be announced in advance. (a) Advanced studies in cinema history/theory; (b) advanced studies in film production; (c) advanced studies in photography; (d) advanced studies in interdisciplinary topics. Not more than 6 semester hours may be counted for graduate credit. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first

38 hours for the B.A. in cinema and photography. A screening fee or a \$15 fee for laboratory materials may be required. Prerequisite: consent of department.

491-1 to 9 Individual Study in Cinema or Photography. Research in history, theory, or aesthetics. Usually taken 3, 3, 3. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Prerequisite: consent of department. Elective Pass/Fail.

492-1 to 3 Practicum. Practical experience in the presentation of photographic theory and procedures. Does not count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

495-1 to 12 Internship in Cinema or Photography. Credit for internship with professional film or photographic units. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

497-1 to 9 Projects in Cinema or Photography. Individual or crew projects in motion picture production or still photography. Usually taken 3, 3, 3. Additional laboratory materials costing \$15 required for still photography projects. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Prerequisite: consent of department. Elective Pass/Fail.

499-4 Senior Thesis. Preparation of a portfolio, film, research or critical paper under the supervision of a cinema and photography faculty member. Normally taken during last term in residence, the senior thesis is evaluated by the departmental faculty. The department will retain one copy of all theses. Additional laboratory materials costing \$15 required for still photography projects. Students interested in producing a film for 499 should have completed 355, 356, 360, 368, 452, and nine hours of cinema history courses. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

591-1 to 6 Individual Study in Cinema and Photography. Supervised research or independent creative work, the area of study to be determined by the student in consultation with cinema and photography faculty. Prerequisite: consent of department.

595-1 to 4 (1, 1, 1, 1) Graduate Seminar. A seminar for graduate degree candidates focusing on the artistic development of the participants. (a) Graduate seminar in photography. (b) Graduate seminar in film production. Prerequisite: admission to the M.F.A. program in still photography or the M.A. program in public visual communications.

597-1 to 16 MFA Projects. Supervised independent creative work, the amount and exact nature of which is to be determined in consultation with the cinema and photography

faculty. Prerequisite: admission to the MFA program and consent of department.

598-1 to 6 MFA Final Creative Project. Supervised independent creative work leading to the completion of the MFA creative project requirement. Registration for six hours of 598 is required of each MFA candidate. Prerequisite: admission to the MFA program and consent of the department.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Communication Disorders and Sciences

401-3 Diagnostic Procedures for Communication Disorders. A general introductory course devoted to discussion of the role of the speech and hearing clinician as a differential diagnostician. Special emphasis is placed on correlating information obtained from the oral-peripheral examination, articulation and language evaluation, audiometric and case history information in constructing the initial evaluation report. Prerequisite: 302, 303 and one additional course or consent of chairperson.

408-2 Communication Disorders: Cleft Palate. An introduction to the ontology and teratology of cleft palate, problems of personal and social adjustments, and principles of therapy. Prerequisite: 105, 214 and 318, or consent of instructor.

419-3 Communication Problems of the Hearing Impaired. Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: 302, 303, 316, and/or equivalents or consent of instructor.

420-3 Basic Audiometric Evaluation. Principles and procedures of audiometric evaluation: pure-tone threshold testing; techniques and standards for clinical calibration of the audiometer; clinical masking procedures; materials and procedures for speech audiometry; hearing assessment of infants and children. Prerequisite: 302, 303, and 316, or equivalents and consent of instructor.

428-3 Communication Disorders and the Classroom Teacher. Etiology and therapy of common speech defects. May be taken by all inservice teachers, seniors, and graduate students in education.

431-1 to 6 (1 to 3, 1 to 3) Biofeedback Communication. An investigation into the

experimental approaches for the study of the phenomena of speech. Evoked potential and signal averaging techniques, psychophysiological methodology. Laboratory experience with various biofeedback instrumentation, EMG, EEG, temperature, ECG, etc. Open to non-majors.

438-2 Problems of Communication and the Process of Aging. Reviews problems of communication related to the aging process and examines relevant diagnostic and therapeutic techniques. For non-majors only. Prerequisite: senior or graduate standing.

491-1 to 4 (1 to 2, 1 to 2) Individual Study. Activities involved shall be investigative, creative, or clinical in character. Must be arranged in advance with the instructor, with consent of the chairperson. Prerequisite: consent of chairperson.

493-1 to 2 (1, 1) Basic Clinical Practice: Principles and Procedures. Supervised clinical practicum in basic theory procedures, diagnostic techniques, and preparation of reports. Prerequisite: 302, 303, and two additional 300-level courses or equivalents and consent of chairperson.

494-1 to 2 (1, 1) Advanced Clinical Practice: Phonological Disorders. Advanced clinical practicum in articulation. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 302 and 493 or equivalents and consent of chairperson.

495-1 to 2 (1, 1) Advanced Clinical Practice: Language Disorders. Advanced clinical practicum in language. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 303 and 493 or equivalents and consent of chairperson.

496-1 to 2 (1, 1) Advanced Clinical Practice: Hearing Disorders. Advanced clinical practice in hearing disorders. Emphasis will be placed on rehabilitative procedures in audiology. Prerequisite: 316 and 493 or equivalents and consent of chairperson.

497-1 to 2 (1, 1) Advanced Clinical Practice: Hearing Diagnostics. Advanced clinical practice in hearing diagnostics. Emphasis will be placed on diagnostic techniques used in the preparation of basic and advanced audiological reports. Prerequisite: 316, 420, and 493 or equivalents and consent of chairperson.

498-1 to 2 (1, 1) Advanced Clinical Practice: Voice Disorders. Advanced clinical practicum in voice disorders. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 318 or equivalent and consent of chairperson.

499-1 to 2 (1, 1) Advanced Clinical Practice: Fluency Disorders. Advanced clinical practicum in fluency disorders. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 319 or equivalent and consent of chairperson.

500-3 Research Design in Speech Pathology and Audiology. Evaluation of the strategies and procedural tactics of behavioral research.

503-3 Laboratory Instrumentation in Speech/Language and Hearing Science. Physiological, acoustical, and biomedical recording, measurement and analysis of the speech encoder, decoder, and code for clinical and research applications. Prerequisite: 203 or consent of instructor.

505-3 Phonological Acquisition. An introductory discussion of the important linguistic, physiological, and acoustic variables which affect language production at the segmental and suprasegmental level of language; and an historical examination of the growth and development of distinctive feature systems from 1920 to the present. Concentration upon the mathematical, logical, physiological, and acoustic assumptions of the various matrices which have been developed. Prerequisite: 302 or equivalent and consent of instructor.

507-3 Language Impaired. Discussion of the application of current theoretical implications and research findings to the syntactically impaired. This course emphasizes diagnostic and therapeutic models applicable to language disorders. Opportunities for research and clinical experience with young children displaying developmental language problems will be provided. Required for master's students. Prerequisite: 303 or equivalent and consent of instructor.

510-3 Stuttering: Behavior Assessment and Therapy. Explores the assumptions underlying diagnosis and assessment. Procedures specific to the differential assessment of fluency failures are examined, evaluated, and related to therapeutic strategies and the tactics of behavior change. Prerequisite: 319 or equivalent, and consent of instructor.

512-3 Voice Disorders. An intensive study of the variables of air stream modulation resulting from impaired structures and function of head and neck. Prerequisite: 318 or equivalent and consent of instructor.

517-3 Seminar: Language Disorders in Children. Students will explore current theories of syntactical and semantic acquisition with an emphasis upon applicability to clinical research and methodology. An historical review of linguistic theory will form the basis for discussion of research approaches in psycholinguistics. Students will review psycholinguistic research and devise paradigms appropriate for the study of verbal impairment. Elective course for master's and doctoral candidates. Prerequisite: 303 or equivalent and consent of instructor.

521-3 Advanced Audiology II. Theory and practice in the application of middle ear impedance measures, electroencephalographic audiometry, electrodermal audiometry, and electronystagmography. Prerequisite: 316 or equivalent and consent of instructor.

525-3 Amplification for the Hearing Impaired. Clinical and laboratory methods of

evaluating hearing aid performance; counseling of adult clients, parents and teachers; professional relationship of audiologist to otologists and to hearing aid dealers; use and evaluation of individual and classroom auditory. Prerequisite: 316 and 520, or equivalents and consent of instructor.

526-3 Industrial and Community Hearing Conservation. The nature of noise-induced hearing loss; methods of hearing protection; physiological and psychological effects of noise; methods of noise control and measurement; legal and economic aspects of community noise abatement; hearing conservation programs in industry and the community. Prerequisite: 316 or equivalent and consent of instructor.

528-3 Seminar: Physio- and Psycho-Acoustics of the Ear. Advanced study of the physiological responses of the middle and inner ear to the acoustic stimulus, in relation to major theories of auditory function; advanced study of behavioral responses to the major parameters of the acoustic stimulus; threshold sensitivity, loudness, pitch, localization, beats, and masking. Prerequisite: 316 or equivalent and consent of instructor.

529-3 Seminar: Experimental Audiology. Basic psychophysical methods, basic operating principles of electronic equipment, and the use of laboratory sound-production and measurement equipment will be presented. Students will design and perform model psychoacoustic experimentation. Prerequisite: 316 and 528, or equivalents and consent of instructor.

533-3 to 6 (3, 3) Seminar: Speech/Language Science and Experimental Phonetics. Special problems in speech communication science. Students may choose from a wide range of topics, such as speech acoustics, kinesthetic perception of speech; voice print identification; artificial and compressed speech, air flow dynamics, etc. Students may pursue one or more topics in depth. Special instruction on group or individual topics chosen. May be repeated to total of six hours with different content.

536-3 Seminar: Administration of Speech and Hearing Programs. Program settings, organizational procedures, and professional interrelationships in adult speech and hearing therapy. Field trips to rehabilitation centers and related agencies.

540-3 Neuro-Anatomical and Neuro-Muscular Disorders of Communication. Will provide a comprehensive examination of the human nervous system suitable to professionals needing a broad understanding of functional neuroanatomy. Special emphasis will be placed on communication disorders which involve the neuromotor system; dysarthria, apraxia, and aphasia. Prerequisite: 214 or equivalent and consent of instructor.

541-3 Neuropsychological Disorders of Communication. Will provide information relative to neurophysiology of psychological and other adaptive behaviors. Aphasia syndromes and appropriate diagnostic and clinical

techniques will be reviewed. Prerequisite: 214 or equivalent and consent of instructor.

544-3 Seminar: Phonological Disorders in Children. An historical examination of the growth and development of distinctive feature systems from 1920 to the present. Concentrates on the mathematical, logical, physiological, and acoustic assumptions of the various matrices which have been developed. Prerequisite: 302 or equivalent and consent of instructor.

548-3 Seminar: Stuttering Behavior Theory and Research. Examines modern learning theory approaches to fluency failure. The learning models dealt with are critically examined in relation to clinical and experimental data. Also reviews the research data on stuttering in relation to design, methodology, and technology. Discussions serve as the background for original investigations. Prerequisite: 319 or equivalent and consent of instructor.

550-1 to 6 (1 to 3, 1 to 3) Professional Training Seminar. A special seminar of a predetermined area of speech pathology and audiology. Each student is expected to prepare and present papers on various aspects of the topic to the group. Liberal discussion will follow each paper. The seminar will be conducted by a faculty member specialized in the area of the topic selected. All doctoral students are required to enroll for a minimum of one credit during the first four semesters in residence.

590-1 to 4 (1 to 2, 1 to 2) Readings in Speech/Language Pathology and Audiology. Supervised and directed readings in specific areas of speech pathology and in audiology. Maximum of two hours counted toward master's degree. Prerequisite: consent of chairperson.

593-1 to 3 Research Problems in Speech/Language Pathology and Audiology. Individual work upon selected problems for research. Prerequisite: consent of chairperson.

598-1 to 3 Internship in Speech/Language Pathology and Audiology. Internship in a selected medical center, hospital clinic, community agency, or private clinic. The internship provides the student with an intensive, professional, clinical experience under supervision of qualified and certified resident staff members. Prerequisite: consent of chairperson.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Communications and Fine Arts

497-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Communications and Fine Arts. Prerequisite: consent of instructor.

Community Development

(See Social and Community Services, Division of)

Comprehensive Planning and Design, Division of

The Division of Comprehensive Planning and Design offers a graduate program in environmental design. Concentrations include clothing and textiles, design, and interior design. Students may enroll in the following courses for graduate credit unless otherwise indicated in the course description.

406-3 (1, 2) Portfolio and Resume. An investigation and implementation of the planning, production, and management of interface information such as resume and presentation of self and portfolio. Not for graduate credit. Prerequisite: senior standing and consent of instructor.

Clothing and Textiles

Persons desiring to concentrate in clothing and textiles must major in environmental design.

Students will be required to purchase additional supplies for some clothing and textiles courses.

405-3 Textile Product Testing. Exposure to and experience with methods used by retailers and manufacturers of textile items to measure performance and maintain quality. Standards, sampling, and replication requirements and interpretation of results. Prerequisite: 304 or equivalent.

414-4 Experimental Custom Apparel Design. Development of apparel to meet esthetic, structural, and functional needs; problem-

solving for exceptional proportions, rehabilitation, activity, performing arts, new technology, materials, environment. Some patterns originated in 414 may be tailored following semester in 428. Prerequisite: 314a and b or equivalent.

416-3 Mass-Market Apparel Designing. Design of a line to specifications; drafting; toiles; mass-production costs; work flow; uses of industrial equipment. Field trips. Prerequisite: 314 or equivalent.

418-3 Professional Practices in Fashion Design. Business principles of apparel design, including systems, forms, and logistics of money and materials. Functions and responsibilities of the fashion designer. Career opportunities in the fashion industry. Not for graduate credit. Prerequisite: 310, 314a, 314b.

428-3 Custom Tailoring. Individualizing, fitting, and contouring of male or female garment for customer from commercial pattern or from pattern originated in 414 preceding semester. Organization of work and time. Prerequisite: 328 or equivalent.

442-3 Clothing Economics. Factors of production, distribution, and consumption influencing clothing industry; management of these factors in clothing related businesses; place of clothing industry in national and international markets. Field trip. Prerequisite: GSB 211 or Economics 214.

460-3 Historic Clothing: Western Cultures. Development of clothing in Western Civilization to the present time. Consideration of social, economic, and esthetic factors and technical innovations influencing clothing. Offered alternate years. Prerequisite: junior standing.

462-3 Historic Clothing: Non-Western Cultures. Traditional dress in non-western cultures. Esthetics, symbolism, and uses of costume in the culture; effect of clothing on economy. Cultures studied may vary with each offering. Offered alternate years. Prerequisite: junior standing.

555-3 Foundations of Fashion. Anthropological approaches to fashion and socioeconomic and psychological forces as determinants of fashion in modern times. Usually offered summers. Prerequisite: 351 or consent of chairperson.

573-2 College Teaching of Clothing and Textiles. Central ideas, objectives, and current practices. For preparation of college teachers.

Design

Persons desiring to concentrate in design must major in environmental design. Four-hundred level courses may be taken for graduate credit unless otherwise indicated in the course description.

Students will be expected to purchase their own materials in some of the design courses.

401-3 Problem Solving in Applied Design. A design team approach solving real problems utilizing the methods and techniques acquired in the design program. Prerequisite: senior standing or consent of instructor.

405-3 Environmental Graphics. An introduction to the theory and practice of designing meaningful symbols for the public environment, including spatial perception and typography as related to signage systems, imagery, symbols, color, and light. Not for graduate credit.

412-4 Practicum in Product Design. Advanced comprehensive product design projects developed into production prototypes. Not for graduate credit.

413-3 Professional Practice in Product Design. The study of designer/client relationships, business practices, design office procedures, and professional ethics. Prerequisite: senior standing or consent of instructor.

422-3 Visual Communication III. Principles of visual message making and investigation of symbols as they are used in communication. Study includes the development of contemporary communication techniques including photographics, topography, color, and illustration as well as learning to identify techniques and processes of communication. Not for graduate credit. Prerequisite: 372.

423-3 Multi-Media Exploration. Experimentation into various forms of electronic and sensory media as a form of visual expression, documentation, and research. Film making, animation techniques, 35mm slide format, and VTR will be explored. Not for graduate credit. Prerequisite: 372 and 373.

432-3 Landscape Architecture. Study of the principles of urban and regional landscape architecture and an introduction to the elements of landscape and architecture. Site analysis and site planning are studied in relation to structures and large scale developments. Technical aspects of site development are stressed. Prerequisite: 333.

433-4 Urban Design III. Continuation of Urban Design II with emphasis on client interaction. Projects dealing with community groups and advocacy planning needs will be dealt with where appropriate. Not for graduate credit. Prerequisite: 381.

450-1 to 6 Internship. Supervised work experience related to student's academic program and career objectives. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of chairperson. Mandatory Pass/Fail.

462-4 Research in Product Design. An in-depth investigation and exploitation of a selected production material (plywood, sheet metal, plastic sheeting, etc.). Prerequisite: senior standing or consent of instructor.

463-4 Products for Special Populations. Products for special subset groups within greater population norms. May be of cross-cultural and interdisciplinary implementation. Not for graduate credit.

464-4 Environmentally-Integrated Products. Development of products integral to comprehensive environmental planning. Not for graduate credit.

465-2 to 4 Independent Study in Product Design. Creative project developed by student and faculty sponsor and approved by director. Prerequisite: 462.

472-3 Visual Communication IV. Advanced problems in visual communications: the development of a corporate identity. Assigned projects simulate design studio procedures for solving contemporary visual identity problems. Prerequisite: 422.

Environmental Design

Students will be expected to purchase their own materials in some of the courses.

411-1 to 6 Workshop. Current topics and problems facing professionals in the field of design. Discussion, reports, lectures, and other methods of analyzing and working on environmental design problems. Emphasis stated in announcement. Maximum of three hours per topic. Prerequisite: senior standing and consent of instructor.

412-1 to 3 Seminar. Special topics and projects considered at stages of design, production, sale or use. Individual preparations and presentations required. Prerequisite: senior standing or consent of instructor.

413-1 to 4 Readings. Supervised study of selected, relevant literature in area of individual interest related to environmental design. Prerequisite: senior standing or consent of instructor.

414-1 to 6 Special Problems. Directed independent work and study in areas determined by individual needs and interests. Maximum of three hours counted toward master's degree. Prerequisite: senior standing or consent of instructor.

500-3 Research Methods and Problem Solving. Application of research methods to the analysis and solution of environmental design problems. Techniques for designing research and structuring projects. Development of prospectus for project or thesis.

504-3 Systems in Environmental Design. Application of systems theory to complex real-life design problems. Identification of subsystems and their interactions; feedback, regulation and control; organizational principles and behavioral characteristics of systems; resistance of systems to change.

508-3 Environmental Intergration. Analysis of selected problems involving combinations of disciplines in comprehensive planning and design division. A multidisciplinary team approach to solving complex environmental problems.

510-3 to 6 Practicum. Application of course work to program external to the Division of Comprehensive Planning and Design which is relevant to students' goals and interests.

Prerequisite: consent of graduate adviser in environmental design and 12 hours in environmental design program.

531-3 Spatial Concepts in Design I. Analysis of interior and architecturally created space design with reference to human proximate environment. Lecture and laboratory. Prerequisite: consent of instructor.

532-4 Spatial Concepts in Design II. Advanced analysis of interior and architectural concepts of space as related to the development of buildings and building complex. Consideration will be given the design of these spaces and the near environment, including landscaping, greenbelts, parks, thoroughfares, and expressways. Prerequisite: 531, Geography 470A or consent of instructor.

541-3 Application of Science and Technology to Design. Examples and analysis of developments in science and technology with particular relevance to design, such as from energy and material resources, housing, transportation, information and computer technology, clothing and textiles, etc. Emphasis will be placed on the role of designers in developing solutions to problems rising from contemporary changes.

551-3 Anticipatory Design. An exploration into methods for recognizing, identifying, and evaluating future needs and opportunities for design in the interrelated domains of ecology, technology, and public policy.

598-1 to 6 Project. For master's candidates electing to do a project rather than a thesis. A total of six hours is required. Prerequisite: approval of director.

599-1 to 6 Thesis. A total of six hours is required. Prerequisite: approval of director.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Interior Design

Persons desiring to concentrate in interior design must major in environmental design. Four-hundred level courses may be taken for graduate credit unless otherwise indicated in the course description.

Students will be expected to purchase their own materials in some of the interior design courses.

470-3 Interior Design Seminar. Development of systematic approach involving systems analysis, human factors engineering, environmental variables. Prerequisite: eight hours in interior design or consent of chairperson.

491-4 Advanced Interior Design. Systematic analysis of human factors as determinants of design solutions for large-scale interiors. Lecture and laboratory. Prerequisite: 391c, 394 or consent of chairperson.

Computer Science

401-3 Computer Organization. Computer main frame architecture; control unit, arithmetic/logic unit, memory, other features. Input/output devices, mass storage devices, channels, and communications equipment. Computer systems configurations design and comparison. Prerequisite: 304, 306 and 342.

411-4 Programming Languages. Study of the significant features of existing programming languages with particular emphasis on the underlying concepts abstracted from these languages. Includes formal specification of syntax and semantics, representation and evaluation of simple statements, grouping of statements, scopes and storage allocation, procedures. Prerequisite: 304.

414-3 Systems Programming and Operating Systems. The use and implementation of assemblers, macro assemblers, linkers, and other systems programs. Exercises in designing and writing various systems programs. An introduction into process, memory, device, and file management in batch, multiprocessing, and time-shared operating systems. Prerequisite: 304 and 306.

420-1 to 3 Topics in Computer Science for Teachers. A consideration of topics in computer science useful in curriculum enrichment in elementary and secondary education. May be repeated as topics vary. Does not count toward a computer science major. Prerequisite: consent of department.

430-3 File Organization and Database Systems. Secondary storage devices. File organizations and access methods. Indexing, security, backup, and recovery. Overview of database management systems, including network, hierarchical, and relational systems, and query languages. Prerequisite: 304 and 306.

432-3 Database Programming. Programming projects using hierarchical, relational, and network database management systems. Projects will be taken from typical commercial applications. Prerequisite: 312 and 430.

435-3 Information Systems Analysis. An exercise in the analysis, design, implementation, testing, and maintenance of a large modular application system. Team production of a system is the focal point for the course. Topics include the system life cycle, modular design, human interfaces, external system specification, program design languages, and improved programming techniques. Prerequisite: 304 and 306.

436-3 Artificial Intelligence I. Heuristic programming. Heuristic methods: state space, problem reduction, game playing, general

problem solver, learning machines. Prerequisite: 304.

438-3 Introduction to Telecommunications. Time dependent computational processes. Hardware and software considerations. Dialogue design. System design and implementation. Prerequisite: 304 and 306.

445-3 Boolean Algebra and Logical Design. (Same as Mathematics 445.) Boolean algebra with applications to computer logic and circuit design. Simplification algorithms. Sequential circuits and sequential machines. Introduction to error-correcting codes. Prerequisite: 342 or Mathematics 319.

449-3 Combinatorics and Graph Theory. (Same as Mathematics 449.) An introduction to graph theory and combinatorial mathematics with computing applications. Topics include permutations and combinations, generating functions, recurrence relations, the principle of inclusion and exclusion, Polya's theory of counting, graph theory, transport networks, matching theory, block designs. Prerequisite: 342.

451-3 Introduction to the Theory of Computing. (Same as Mathematics 451.) The fundamental concepts of the theory of computation including finite state acceptors, formal grammars, turing machines and recursive functions. The relationship between grammars and machines with emphasis on regular expressions and context-free languages. Prerequisite: 445.

455-3 Design and Analysis of Computer Algorithms. Introduction to analysis and complexity of algorithms. Searching/sorting algorithms, polynomial matrix algorithms, graph theoretic algorithms. Introduction to complexity theory. Prerequisite: 304, 342.

464-6 (3, 3) Numerical Analysis. (Same as Mathematics 475.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Must be taken in a, b sequence. Prerequisite: 202, Mathematics 250, and Mathematics 221.

470-3 Computer Simulation Techniques. Applications and rationale. Design and analysis of discrete simulation models. Generation of random sequences and stochastic variates. Simulation languages. Prerequisite: 202, Mathematics 280, or 282, or 283, or equivalent.

471-3 Introduction to Optimization Techniques. (Same as Mathematics 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 202, Mathematics 221, and Mathematics 250.

472-3 Linear Programming. (Same as

Mathematics 472.) Nature and purpose of the model. Development of the simplex method. Application of the model to various problems. Introduction to duality theory. Transportation and network flow problems. Postoptimality analysis. Prerequisite: 202 and Mathematics 221.

485-3 Computer Graphics. Study of the devices and techniques for the use of computers in generating graphical displays. Includes display devices, display processing, transformation systems, interactive graphics, 3-dimensional graphics, graphics system design and configuration, low and high level graphics languages, and applications. Prerequisite: 304 and 306 and Mathematics 111 or equivalent.

490-1 to 6 (1 to 3 per semester) Readings. Supervised readings in selected subjects. Prerequisite: consent of instructor and department.

491-1 to 4 Special Topics. Selected advanced topics from the various fields of computer science. Prerequisite: consent of instructor.

492-1 to 6 (1 to 3 per semester) Special Problems. Individual projects involving independent work. Prerequisite: consent of department.

493-1 to 4 Seminar. Supervised study. Preparation and presentation of reports. Prerequisite: consent of instructor.

501-3 Advanced Computer Organization. Microprogrammable computer systems. Modular computer design concepts. Microprocessors. Design concepts of stack and parallel computers. Overlap and pipeline processing. Other current topics in computer organization. Prerequisite: 401 and 445.

511-3 Formal Specification of Programming Languages. A survey of modeling techniques and meta languages for the formal specification of the syntax and semantics of high-level programming languages. Prerequisite: 411.

514-3 Advanced Operating Systems. Design and analysis of multiprogramming, multiprocessing, and time-sharing operating systems. An in-depth study of a particular operating system. Exercises in designing and writing various operating systems routines. Parallel processing, protection mechanisms, and other current topics in operating systems. Prerequisite: 414.

516-3 Compiler Construction. Design of a simple, complete compiler, including lexical analysis, syntactical analysis, and code generation. Advanced topics selected from mixed arithmetic, procedures and parameters, optimization, compiler writing systems. Prerequisite: 306 and 411.

530-3 Database Management Systems. A study of relational, hierarchical, and network models of database management systems, including such topics as relational calculus and algebra, high level query languages, normalization, IMS, and DBTG. Prerequisite: 430.

532-3 to 6 Topics in Information Systems.

A detailed study of two or three topics relevant to information systems. Topics may include but are not limited to sorting, searching, information retrieval and automatic text processing, database security and encryption, distributed databases, and data communication. Prerequisite: 430 and consent of instructor.

536-3 Artificial Intelligence II. Theorem proving, the Resolution Principle, strategies, and achievements. Program verification, natural language processing, and selected topics from pattern recognition. Prerequisite: 436.

553-3 Formal Languages and Automata. (Same as Mathematics 528.) Algebraic analysis of automata with emphasis on semigroup and decomposition theory. Probabilistic automata. Grammars including regular, context-free, context-sensitive and type zero. Normal forms, restricted grammars. Closure properties. The relation between grammars and automata. Basic decision problems. Prerequisite: 451.

555-3 Theory of Computability. (Same as Mathematics 529.) Turing machines and recursive functions. Church's thesis. Solvable and unsolvable problems. Introduction to complexity theory including the classes P and NP. Polynomial time approximation algorithms for NP-complete problems. Prerequisite: 451.

564-3 to 9 (3, 3, 3) Advanced Numerical Analysis. (Same as Mathematics 592.) Selected topics chosen from such areas of numerical analysis as approximation theory, numerical solution of initial value problems, numerical solution of boundary value problems, numerical linear algebra, numerical methods of optimization, functional analytic methods. Prerequisite: consent of instructor.

590-1 to 9 Readings. Supervised readings in selected subjects. Graded *S/U* only. Prerequisite: consent of instructor and department.

591-1 to 9 (1 to 3 per topic) Special Topics. Selected advanced topics from the various fields of computer science.

592-1 to 6 (1 to 3 per semester) Special Problems. Individual projects involving independent work. Graded *S/U* only. Prerequisite: consent of department.

593-1 to 4 Seminar. Preparation and presentation of reports. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 5 Thesis. Minimum of three hours to be counted toward a master's degree. Prerequisite: consent of department.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Curriculum, Instruction, and Media

400-2 Simulation and Gaming. The role of simulation and gaming in instruction, the availability of commercial games and simulation devices, and the theoretical backgrounds used in constructing teacher-made games are to be examined.

402-3 Education for Disadvantaged and Culturally Different Students. The student examines the characteristics of behavior and learning patterns of culturally different and socioeconomically disadvantaged children. Content also includes school adjustment, experiential background, self-concept, language development, and appropriate teacher behaviors and teaching strategies.

407-3 to 9 (3 per topic) Diagnostic and Corrective Techniques for the Classroom Teacher. A presentation of diagnostic and remediation techniques with emphasis placed on appropriate methods and materials to be used in classrooms in the areas of (c) language arts, (e) mathematics, and (f) reading. Prerequisite: special methods course in field selected by student and/or consent of instructor.

409-3 Creative Teaching. To assist pre- and in-service teachers in acquiring methods and materials that will improve instruction in the public school classroom, with special attention to the characteristics and needs of students. Prerequisite: Education 302.

410-2 Creative Writing in the Public School. Techniques of encouraging creative writings in the schools.

412-3 to 15 (3 per topic) Improvement of Instruction in Early Childhood Education (Preschool-Grade 3). Examines recent findings, current practices, and materials used in early childhood education in the fields of (c) language arts, (d) science, (e) mathematics, (f) reading, and (g) social studies. Prerequisite: specialized methods course for the field of study selected by the student.

415-3 Improvement of Instruction in Middle School Mathematics (Grades 4-8). Examines recent findings, current practices, and materials in the middle school setting. Prerequisite: 315 or consent of instructor.

418-2 History and Philosophy of Early Childhood Education. A survey of the history and philosophies of early childhood education with its implication for current program practices. Students' analysis of their personal philosophy of early childhood education. Prerequisite: 316, 318, senior or graduate standing.

419-3 Parent Involvement in Education. Materials, techniques, and resources suitable for use by teachers in helping parents and

teachers to understand how they can help each other in the partnership responsibilities of the education of children from a variety of backgrounds. Prerequisite: 317, student teaching, or consent of instructor.

420-3 Teaching the Adult Functional Illiterate. The emphasis in the course is on understanding the problems of the individual whose literacy level does not permit full participation in the economic, social, and civic opportunity available to the majority of citizens. Prerequisite: permission of instructor.

423-3 Teaching Elementary School English Language Arts. Oral and written communication processes with emphasis on the structure and process of the English language arts in the elementary school. Specific attention to the fundamentals of speaking English, writing, spelling, and listening. Study of learning materials, specialized equipment, and resources.

424-3 Teaching Elementary School Social Studies. Emphasis on the structure and process of teaching social studies in the elementary school setting. Specific attention to the fundamentals of developing social studies objectives, planning units, developing a general teaching model, organizing the curriculum, and evaluating behavioral change. Study of learning materials, specialized equipment, and resources.

426-3 An Introduction to Teaching Elementary School Science. Content and methods of elementary school sciences, grades K-8. Emphasis on the materials and strategies for using both traditional and modern techniques of science education. One or more field trips.

427-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Botany 462). Specifically designed to develop those cognitive processes and concepts needed by elementary school teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

435-3 Literature for Children. Studies types of literature; analysis of literary qualities; selection and presentation of books and other media for children; and integration of literature in preschool, elementary, and library settings.

436-2 Bibliography and Literature of Education. Introduction to the use of library resources for research in education. Includes bibliographies in education, the periodical literature, Office of Education publications, dissertation and thesis indexing services, and the Educational Resources Information Center (ERIC) materials. Students will compile bibliographies in their own fields of interest.

437-3 Educational Media in Training Programs in Business and Industry. For those persons interested in the role that media plays in current training practices in business and industry. Emphasis is directed toward an understanding of the rationale for using media, a review of the various methods utilized

in training programs, an examination of current training media, and a description of methods used to evaluate the effectiveness of training media. Includes an examination of the roles of professions who develop media for training.

438-3 Introduction to Technical Services. Organization of library materials. Emphasis on cataloging and classification. Includes acquisition, processing, and circulation of materials. The Dewey Decimal classification system and Sears list of subject headings are stressed. Laboratory assignments.

439-3 Basic Reference Sources. Introduction to the principles and methods of reference work. Concentration on the study and examination of the tools which form the basic reference collection of the school and the community college library.

440-3 Selection of Media. Evaluation of print and non-print media; resources and services; competencies for efficient purchasing and selecting of media. Includes selection principles and problems for elementary, secondary, and community college libraries.

442-4 Administration of the School Media Program. Functions and management of elementary and secondary school library media programs with emphasis on services, personnel, financial aspects, facilities, and evaluation. Current issues and trends as reflected in the literature. Field trips to school library media centers.

445-3 Media for Young People. The selection and use of books and other educational media for students in the junior high and senior high school.

450-3 Photography for Teachers. Photography as a tool of communication in the modern school. Techniques of camera handling, visually planning a story, macro-photography, and color slides.

451-3 Photographic Preparation of Educational Media. Techniques of photography used in producing prints, overhead transparencies, daylight slides, high contrast materials, picture stories, filmstrips, and other photographic instructional materials. Prerequisite: 450 or consent of instructor.

453-3 Production of Educational Media I. Principles, skills, and techniques in the design and production of basic nonphotographic educational media. Experience includes applying lettering, coloring, and mounting techniques to projected and nonprojected media.

455-3 Organization and Production of Media for Self-Instruction. The study of various programming techniques and the procedures used in producing, designing, and evaluating materials used for self-instructional purposes. Includes organizing a teaching segment and producing the needed materials to create a self-instructional package.

458-3 Classroom Teaching with Television. Classroom utilization of open and closed circuit television. Emphasis is placed on the changed role of the classroom teacher who uses

television. Evaluation of programming, technicalities of ETV, and definition of responsibilities are included. Demonstration and a tour of production facilities are provided.

462-3 Middle and Junior High School Programs. Focuses on the development of middle and junior high school curriculum and the identification of instructional activities which relate to the pre and early adolescent student. It is anticipated that the student will be able to plan and develop teaching units and evaluate procedures complementary to this portion of the school structure.

464-2 Student Activities. Analysis of extra-class activities and programs in public schools with a focus on the status, trends, organization, administration, and problems.

465-3 Advanced Teaching Methods. The focus is on a variety of teaching methods and strategies which are appropriate for secondary and post-secondary school educators. Both individual and group methods are emphasized.

468-3 Science Methods for Junior and Senior High Schools. A performance-based approach to instructional skills common to teaching natural science at the junior and senior high school levels. Three class hours and one micro teaching laboratory hour per week. Prerequisite: Education 302 or consent of instructor.

469-3 Teaching Social Studies in the Secondary School. Emphasis is placed upon instructional strategies and curricular designs in social studies at the junior and senior high school levels.

481-3 Instructional Applications of Main-frame Computers. Design, development, and programming of computer-assisted instructional materials using interactive, timesharing computer systems. Study of lesson design and programming, including branching and program flow, display techniques, response judging, teaching strategies, organization, and style.

483-3 Instructional Applications of Micro-computers. A study of the history, development, and use of microcomputers and microcomputer systems in education. Emphasis is upon the characteristics, capabilities, applications, and implications of microcomputers and microcomputer lessons with case studies of their integration into the teaching learning process.

496-2 to 6 (2 to 4 per semester) Field Study Abroad. Orientation and study before travel, readings, reports, and planned travel. Includes visits to cultural and educational institutions. Maximum credit hours in any term is 4.

498-1 to 15 (1 to 3 per topic) Workshops in Education. Critical evaluation of innovative programs and practices. Acquaints teachers within a single school system or in a closely associated cluster of school systems with the philosophical and psychological considerations and methods of implementation of new programs and practices in each of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts,

(d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) the middle school, (k) secondary education, (l) disadvantaged children and youth, (m) instruction, (n) educational media, (o) environmental education, and (p) children's literature. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.

500-3 Research Methods in Education. Introduction to educational research and designs, writing techniques, and evaluative processes in education. Prerequisite: admission to a graduate program.

501-3 Organization and Administration of Reading Programs. For reading specialists, consultants, supervisors, and instructional leaders. Recent trends in organization, administration of reading programs, K-community college; materials, equipment, budget for special programs; study of roles of various personnel; and in-service preparation programs. Specific problems of class members are studied. Prerequisite: 512 or 561.

504-3 Systematic Approaches to Instruction. Gives graduate students an opportunity to investigate, discuss, and apply systematic approaches to instruction. Special emphasis is given to that element of the instructional system which allows for the integration of instructional media into the process.

508-3 Supervision of Professional Education Experiences. The role and responsibility of the cooperating public school teacher in the supervision of teacher education students, involved in various field experiences. Attention is given to the joint responsibilities of the university and the public school in this cooperative venture. For present and prospective teachers who wish to effectively deal with students in the various professional education experiences.

509-3 Foundations of Environmental Education. Designed specifically to provide teachers, administrators, and curriculum specialists with the knowledge and skills necessary to implement environmental education strategies in both elementary and middle schools. Includes work in ecological foundations, programs currently in use, unit designs, methods, and research. One or two field trips may be required.

510-3 Values Education Curriculum. Alternative views of the impact of schooling on children's values will be explored. Current curricular approaches to moral education will be examined with special emphasis given to values clarification and the cognitive-developmental approach of Lawrence Kohlberg. Psychological and philosophical assumptions underlying the major approaches to moral education will be critically examined.

511-3 Seminar in Psychology of Elementary School Subjects. Psychological principles of learning theories as applied to the mastery of materials used in elementary and early childhood education school subjects. Emphasis is placed on implications of theories

of learning for curriculum development and instruction.

512-3 Reading in the Elementary School. First course in the reading sequence. Survey of the reading process. Introduction to factors affecting the reading process, the common core of skills, teaching strategies, materials, and research.

513-3 Kindergarten-Primary Reading. A survey of problems and methodology in the developmental reading program for the primary grades. Emphasis placed upon prevention of reading difficulties.

515-3 Advanced Remediation in Mathematics. Strategies for the design of prescribed systematic instruction for correcting identified mathematics difficulties. Experience in designing and preparing materials for corrective purposes. Prerequisite: 407E or consent of instructor.

517-3 Early Childhood Programs: Organization and Administration. Presents an overview of the organization and administration of programs for children ages three to eight with experiences in planning for operating and administering such programs. Prerequisite: 316, 518, or consent of instructor.

518-3 Early Childhood Education. A survey of current problems and practices in early childhood education for children from three to eight years of age, with emphasis on reading in current research literature. Prerequisite: consent of the instructor.

520-3 The Language Arts in Bilingual Classrooms. Designed for the teacher who wants to develop the expertise necessary to provide appropriate language arts activities for children in a bi- or multi-lingual classroom. Specific areas covered include the basics of second language learning, assessment of language ability, high motivation language development activities, resource identification and utilization, and evaluation of performance and of available materials, textbooks, and equipment.

521-8 (4, 4) Diagnosis and Correction of Reading Disabilities. Causes of reading difficulties, observation and interview procedures; standardized tests, instruments, and informal inventories; analysis techniques; experiences in preparing materials for corrective purposes. Each student diagnoses and treats a reading disability case under supervision. Prerequisite: 512 or 561 and consent of instructor.

522-3 Teaching Reading Skills to College Students. Designed to discuss, develop, and demonstrate techniques of teaching reading skills to college students. A very important aspect of this course is practical tutoring sections. Prerequisite: permission of instructor.

523-3 Language Arts in the Elementary School. The practical bearing of investigation and theory on the improvement of current practices in the teaching of the language arts other than reading. Attention given to evaluation of teaching materials in these areas. Prerequisite: 423.

524-3 Teaching the Social Studies in the Elementary School. A study of theory and practices of teaching and developing programs in elementary school social studies. Particular attention to be given to trends and issues in social studies. Various social studies models will be examined and evaluated for practical use. Students must demonstrate behaviorally the competencies and skills related to successful performance in the teaching of social studies.

526-3 Problems in Elementary School Science Education. Emphasis upon identifying problems and trends within elementary school science education and planning for research in this field. Prerequisite: 426.

531-3 The Elementary School Curriculum. An introductory course in curriculum designed to assist teachers and administrators in making operational decisions in elementary education which are based on knowledge of foundations of elementary education, organization of learning experiences, research in specialized areas, materials and methods, instructional programming and evaluation. Students are required to exhibit curriculum competencies through the creation of products and through demonstration of skill.

532-3 Research in Elementary Education. Critical analysis of the most significant research studies in foundation, organization, learning, instruction, curriculum, evaluation, and specialty areas in elementary education.

533-3 Instructional Leadership in Elementary Education. A study of research and related literature concerning various instructional leadership styles and behaviors. Major attention is given to such behaviors as they apply to the local school and the individual classroom situation.

534-3 Organization of the Elementary School. An analysis of types of elementary school organizations with special attention to influence of school organization upon the educational program. Application of research findings to selection and use of materials of instruction. Special consideration to classroom teacher's professional problems.

538-3 Organization of the Nonbook Collection. The application of standard library techniques to the organization, storage, distribution, and physical processing of all types of nonbook materials with emphasis on cataloging and classification. Prerequisite: 438.

539-3 Reference Services of the Media Program. Designed to round out the student's preparation for reference work in an elementary school, secondary school, or community college media program. The techniques of developing a reference service with attention to the needs of special user groups. Preparation of bibliographies on subjects of current topical interest and a term project on a specific issue or problem. Prerequisite: 439.

540-3 Mass Communication in Education. The communication theories of recognized authorities in the field will be studied.

These theories will be applied to the use of mass media in education. Radio, television, comic books, newspapers, magazines, and motion pictures will be discussed.

542-3 Administration of an Educational Media Center. Designed to further the training of specialists in selected issues associated with the supervision and management of integrated programs of media services. Current and emerging administrative roles, responsibilities, and practices are examined in the context of providing effective and efficient services to media users. Prerequisite: 442 or consent of instructor.

543-3 Automation of Information Centers. A study of selected retrospective, current, and emerging characteristics, capabilities, applications, and implications of automation to information centers located in public schools, colleges, communities, government agencies, and the private sector.

544-3 Community College Media Programs. A survey of community college media programs in the U.S., their philosophy and objectives, practices and procedures, and research in the field. Prerequisite: consent of instructor.

546-3 The Library of Congress Classification Scheme. The study of the Library of Congress classification scheme as it is utilized in community college libraries. Prerequisite: 438.

548-3 Production of Educational Media II. Advanced use of audio, graphic, and photographic principles and techniques applied to the design and production of educational media to meet specific objectives. Includes application of a basic model of the design process. Prerequisite: 453 and 450 or consent of instructor.

549-2 Designing Multi-Image Learning Materials. The acquisition of skills in designing, producing, and showing multi-image learning materials. Students should possess photographic skills and a 35 mm camera.

551-3 Survey of Research and Developments in Educational Media. Survey of research, research techniques, needed research, and new developments and programs in educational media. Prerequisite: consent of instructor.

553-2 Instructional Design. The primary purpose of the course is to give the students experience in designing and producing materials for real instructional settings in cooperation with professional instructional staff members. Advanced graphic production methods and developing evaluation skills are also included. Prerequisite: 450, 453 or consent of the instructor.

554-3 Utilization of Educational Media. The utilization of print and nonprint materials in instructional implementation and curriculum development. Structured for teachers, media directors, administrators, and instructional designers. The increasing role of technological advances in education is stressed as

they relate to learning theory and curriculum development.

555-3 Visual Communication. How to communicate with pictures in the classroom, the design of still and motion pictures, pictures used in teaching perception, and the place of pictures in advertising and communication.

560-3 Instructional Television. The field of educational broadcasting is explored, with special emphasis on public and school television. History and philosophy are included. Problems of programming and their effect on society are studied. The relationship between broadcasting and the viewing public is investigated, and the responsibility of each is established. Emphasis is also placed upon principles of ITV administration and inservice training.

561-3 Reading in the Secondary School. For the junior and senior high school teachers who desire a foundation in reading. Emphasis placed on the basic skills appraisal of reading abilities, materials of instruction, and methods of teaching reading in the content areas.

566-3 Instructional Strategies for Problem Solving. The focus is on developing those teaching strategies which will foster and enhance problem solving skills and heuristic thinking. Representative of these teaching skills would be inductive and deductive approaches, discovery and inquiry techniques, and questioning strategies.

569-3 Principles and Trends in Secondary School Social Studies Education. An evaluation and study of social studies trends and practices as they are related to curriculum, organization, and instruction at the junior and senior high school and community college levels.

571-3 Secondary School Curriculum. An introductory course designed to explore the nature and development of the curriculum at the secondary school level. Historical perspective and foundations of curriculum are examined. Functional applications to the public secondary schools are emphasized.

572-2 History and Philosophy of Bilingual/Bicultural Education. Surveys major influences in the development of bilingual/bicultural education in the United States and presents the major philosophical positions affecting this development. Students will also choose one or more specific related areas for concentrated investigation.

573-3 Perspectives on the Future and Its Schools. Deals with the future development of education and social trends which will influence that development. Emphasis is placed upon alternative models of education and their social bases.

574-2 Psycho- and Sociolinguistic Considerations in a Bilingual/Bicultural Classroom. Acquaints educators with possible sources of psycholinguistic and sociolinguistic problems in the bilingual classroom and equips them with techniques for utilizing, modifying, and counteracting those influences.

580-3 Current Developments in Major Subject Areas in Secondary Schools. Trends, issues, problems in the subject areas of the secondary school, related to the student, program, school organization, staff, material and media, the school building, and the process of innovation and change.

582-3 Research in Secondary Education. Critical analysis of the most significant research studies in the foundations, organization, learning, instruction, curriculum, evaluation, and certain specialty areas in secondary education. Prerequisite: admission to Specialist degree or Ph.D. degree program.

583-3 Instructional Theory, Principles, and Practices. Presentation of conceptual formulations and skills concerning instructional theory and principles; foundations of instruction; instructional systems and models; delivery processes (logistics), systems, and maintenance of quality control; and evaluation of teachers and students.

584-3 Curriculum Theory: Foundations and Principles. Presentation of conceptual formulations concerning curriculum theory and propositions; foundations: philosophy, sociology, and learning theories; the curriculum system and its components; crucial issues in developing a curriculum theory; and theoretical curriculum models: analysis and assessment.

585-3 to 15 (3 per topic) Seminars in Education. A series of seminars for specialized study of significant aspects of educational problems, practices, issues, trends, research, policies, and programs. Areas of study are: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) the middle school, (k) secondary education, (l) disadvantaged children and youth, (m) instruction, (n) educational media, (o) environmental education, and (p) children's literature. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.

586-3 Curriculum Design and Development. Presentations concerning educational planning and curricular decision-making relating to curriculum: aims, goals, and objectives; nature of knowledge, disciplines, and subjects; curriculum structures: sequence and scope; substantive structural models; content and activity selection, product analysis and production; evaluation; and curriculum modification and change.

587-3 Curriculum Implementation and Evaluation. Attention is given to preparing the curriculum specialist to use appropriate techniques and skills to put curriculum programs into practice and to assess the effectiveness of such programs in terms of a wide range of variables which indicate success or need for curricular modification.

589-3 The Work of the Director of

Curriculum. The role of the director of curriculum and instruction is the focus of this course. Such topics as the background, current status, and tasks and functions of the position are examined. Additionally, such broad areas of the director's role as needs assessment, program planning and evaluation, and in-service education planning are covered. Prerequisite: 586 or 587 or consent of instructor.

590-1 to 15 (1 to 3 per topic) Independent Readings. Directed readings in literature and research in one of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (m) instruction, (n) educational media, (o) environmental education, and (p) children's literature. Maximum of four hours toward a master's degree. Prerequisite: consent of instructor.

593-1 to 15 (1 to 3 per topic) Individual Research in Education. The selection, investigation, and writing of a research topic under the personal supervision of a member of the departmental graduate staff, in one of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (m) instruction, (n) educational media, (o) environmental education, and (p) children's literature. Maximum of three hours counted toward a master's degree. Prerequisite: consent of instructor.

594-(3 to 9 per topic) Practicum. For master's degree students: professional consultation, teaching demonstration, practical application of advanced theory, work with clinical cases, or program development implementation, and evaluation in school systems, community colleges, or universities. Reading and research directed to special problems involved in on-site situations in the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (m) instruction, (n) educational media, and (o) environmental education. A maximum of nine hours credit may be applied toward a master's degree. Prerequisite: consent of instructor.

595-(2 to 8 per topic) Internship. Culminating experience for Ph.D. or specialist degree students. Students engage in specialized service areas either in their own or a cooperating school or school system or university. Weekly on-campus or on-site seminar will be held with the intern supervisor. Internship areas are: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (m) instruction, (n) educational media, and (o) environmental education. A maximum of eight hours credit may be applied toward a Ph.D. or specialist degree. Prerequisite: consent of instructor.

596-3 to 6 Independent

Investigation. Field study required of each student pursuing for the sixth year specialist degree. The work should be conducted in the setting of the educational system in which the student is employed or where cooperation is extended. The study involves selecting the problem, survey of pertinent literature, recording results, and appropriate interpretations and summarizations. Graded *S/U* only. Prerequisite: consent of instructor and admission to sixth-year specialist degree program.

599-2 to 6 Thesis. Minimum of four hours to be counted toward a master's degree. Prerequisite: admission to master's degree program.

600-1 to 32 (1 to 16 per semester) Dissertation. Minimum of 24 hours for the Doctor of Philosophy degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Economics

416-3 Money and Banking II. An examination of the principal institutions whose joint actions determine the supply of money in the United States economy. Emphasis is placed on the commercial bank operating as a firm within the Federal Reserve System. Policy issues are examined for the regulation of the banking industry as well as for the control of the domestic money supply. Prerequisite: 315 or 340 or 341 or consent of instructor. Elective Pass/Fail.

419-3 Latin American Economic Development. Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment and agrarian reform. Prerequisite: 322 or 340 or 341 or consent of instructor. Elective Pass/Fail.

420-3 The History of American Growth in the 20th Century. An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment, and others. Prerequisite: 340 or 341 or consent of instructor. Elective Pass/Fail.

425-4 Economics in Geography and Planning. (Same as Geography 422.) Concepts,

symbols, language, theory, elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: Geography 300 or consent of instructor. Elective Pass/Fail.

429-3 International Trade and Finance. Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340 and 341 or consent of instructor. Elective Pass/Fail.

431-3 Public Finance II. State and local. Analysis of the economic effects, problems, and alternative solutions concerning state and local government expenditures, revenues, and debt. Prerequisite: 330 or 340 or 341 or consent of instructor. Elective Pass/Fail.

436-3 Government and Labor. (Same as Political Science 428.) Influence of government and law on collective bargaining, on the internal operation of unions and on job discrimination in the public and private sectors. Prerequisite: GSB 211 and 212 or equivalents or consent of instructor. Elective Pass/Fail.

440-3 Price, Output, and Allocation Theories. A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly, and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 215 or consent of instructor. Elective Pass/Fail.

441-3 Contemporary Macroeconomic Theory. An examination of the causes of inflation, unemployment, and fluctuations in aggregate economic activity factors affecting consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary, and incomes policies facing the United States government. Not open to students who have had 341. Prerequisite: 214 or consent of instructor. Elective Pass/Fail.

442-3 Monopoly and Competition in the Industrial State. A survey of economic theories and empirical studies on the nature and consequences of business rivalry in imperfectly competitive markets. Prerequisite: 340 or 440 or consent of instructor. Elective Pass/Fail.

443-3 Honors Seminar in Economics. Application of the tools of economic analysis to the study of contemporary social problems. Enrollment limited to economics majors who have a minimum cumulative grade point average of 3.0 or higher in all prior economics courses. Economics graduate students are not permitted to enroll in this course. Prerequisite: 340 and 341.

450-3 History of Economic Thought. An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust, and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen, and Keynes are highlighted and major schools of economic thought are identified. Prerequisite: 214 and 215; or GSB 211; or consent of instructor. Elective Pass/Fail.

465-3 Mathematical Economics I. A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440, and Mathematics 117 or 140, or consent of instructor. Elective Pass/Fail.

467-3 Introduction to Econometrics. Introduction to the use of statistical inference and distribution theory for measuring and testing economic theory. Emphasis placed on the linear model, least squares estimation, hypothesis testing, and the underlying assumptions. Prerequisite: 308 or consent of instructor. Elective Pass/Fail.

471-3 Land Resource Economics. (See Agribusiness Economics 440.) Elective Pass/Fail.

479-3 Problems in Business and Economics. (Same as Administrative Sciences 479.) Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 215; 308 or Administrative Sciences 208; Marketing 304. Elective Pass/Fail.

481-3 Comparative Economic Systems. Capitalism, socialism, communism, and other forms of social organization are examined from a theoretical point of view. Economic and social theories from Adam Smith and Karl Marx to Milton Friedman and Paul Sweezy will be examined. Prerequisite: 340 or 440 or consent of instructor. Elective Pass/Fail.

490-3 Workshop in Economic Education. Designed to assist elementary and secondary school teachers in promoting economic understanding in the minds of their students through the translation of economic principles and problems into classroom teaching materials. Elective Pass/Fail.

500-3 to 24 (3 per topic) Economics Seminar. A study of a common, general topic in the field of economics with individual reports on special topics. Prerequisite: consent of instructor.

501-1 to 21 Economics Readings. Readings from books and periodicals in economics. Master's degree students limited to a total of six hours. Prerequisite: consent of instructor and chairperson.

502-1 to 4 Readings in Resource Economics. (See Forestry 590.)

507-1 to 4 (1, 1, 1, 1) Practicum in Undergraduate Teaching. Emphasizes teaching methods, source materials, and prepa-

ration of classroom materials. All teaching assistants must enroll. One hour of credit per semester. Graded S/U only.

510-2 Research in Economics: Design, Methodology, and Presentation. Systematic approach to economic research. Includes research planning and design, exploration of the various sources of data, and most frequently used methodology. The last part of the course is concentrated on techniques for communicating the results of research. Prerequisite: consent of instructor.

512-3 Seminar in Labor Institutions. Multi-disciplinary approach to collective bargaining in the private and public sectors, considering industrial relations theory, and the economic effects of collective bargaining. Readings and cases. Prerequisite: 310 or equivalent or consent of instructor.

517-3 Monetary Theory and Policy. A survey of contemporary monetary theory and related policy issues. Prerequisite: 541 or consent of instructor.

518-3 Monetary Theory and Policy II. Contemporary topics in monetary theory and policy, including analysis of the roles of money in inflation and economic growth, and an appraisal of the conduct and impact of monetary policy. Prerequisite: 517 or consent of instructor.

520-6 (3, 3) Economic Development Theory and Policy. (a) Classical, neoclassical, and modern contributions to the theory of development; theories of underdevelopment. (b) Basic approaches to economic development; laissez-faire; balanced growth; unbalanced growth, role of government; methods of planning; and foreign aid. Must be taken in a, b, sequence. Prerequisite: consent of instructor.

522-3 Microeconomic Foundations of Labor Markets. The approach is theoretical. Topics include the theory of wage and employment determination, labor mobility, labor market imperfections, the special problems of minority group labor, and trade union issues. Prerequisite: 538 or 540b or consent of instructor.

525-4 Seminar in Economics in Geography and Planning. (Same as Geography 522.) Public expenditure criteria based on free-market allocation, public, private, and merit goods and services, and related planning; expenditure criteria based on comprehensive plans; expenditure criteria and planning in the absence of general optimality; multiple objectives, measurement of benefits and costs, shadow prices, choice of techniques in planning; consideration of uncertainty. Critical evaluations of applied work and models of development projects and programs by students. Prerequisite: 422 or consent of instructor.

530-3 Foreign Trade. Emphasis on the advanced theory of international trade, survey of significant literature in international theory. Study of more advanced tools of analysis. Prerequisite: 340 or 440 or consent of instructor.

531-3 International Finance. Application

of theory to current international economic developments. Empirical studies. Prerequisite: 329 or consent of instructor.

532-3 Economics of Human Resources. The study of institutions and policies designed to solve manpower problems. Emphasizes such topical areas as unemployment, underemployment, manpower training and development, labor market behavior, vocational education, labor problems of the handicapped, the aged, women, and minority groups, health economics, economics of education and poverty. Prerequisite: consent of instructor.

533-3 Public Finance Theory and Practice. Historical development of public finance theories with analysis of their policy implications. Prerequisite: 330 or consent of instructor.

534-3 Economics of Taxation. This course examines from a theoretical and applied point-of-view, various economic aspects of taxation. Other government revenue sources may also be analyzed such as inter-governmental grants and debt. Emphasis is on application of microeconomic theory to problems in taxation. Usual topics include: equity in taxation, shifting and incidence of taxes, excess burden of taxes, other economic effects of taxes, tax reform, debt. Prerequisite: 330 and 340 or 440 or consent of instructor.

540A-3 Microeconomic Theory I. Taken in A,B,C sequence with consent of instructor. Prerequisite: 340 or 440 or consent of instructor.

540B-3 Microeconomic Theory II. Taken in A,B,C sequence with consent of instructor. Prerequisite: 340 or 440 or consent of instructor.

540C-3 Microeconomic Theory III. Taken in A,B,C sequence with consent of instructor. Prerequisite: 340 or 440 or consent of instructor.

541-6 (3, 3) Macroeconomic Theory I and II. Taken in a, b sequence except with consent of instructor. Prerequisite: 341 or 441 or consent of instructor.

545-3 Energy Economics. A survey of theoretical and institutional aspects of energy production, distribution, consumption, and regulation. Topics covered include cartel theory, history of energy use, theory of resource exhaustion, models of energy demand and supply, past and current policy issues, and environmental protection. Prerequisite: 467 and 440, or consent of instructor.

546-3 Workshop in Energy Economics. A research seminar on topics related to energy production, distribution, consumption, and regulation. Meetings will be divided among presentations of research of (a) faculty, (b) students, and (c) outside speakers, offered every semester. Maximum of three hours toward master's degree in economics. Prerequisite: 545.

552-3 Seminar in Economic Thought. An exploration of the basic philosophic assumptions which underlie the various types of economic thought with special emphasis upon the historical development of the premises of modern day economic theories. Prerequisite: 450a or b or consent of instructor.

555-3 Seminar in Economic History. An examination of the structural economic changes in various economies throughout the world. Prerequisite: consent of instructor.

562-3 Seminar in Economic Systems. A final, theoretically-oriented examination of economic systems. Includes recent theoretical models; contemporary changes in major economic systems; the emergence of mixed systems. Relates economic, social, and political systems and evaluates attempts to place economic systems within the context of general systems theory. Prerequisite: 481 or consent of instructor.

565-3 Applied Econometric Analysis. Applications of statistical tools to specific economic problems. Numerous examples will be examined in order to achieve this goal. Emphasis will be given to model misspecification, non-classical estimation techniques, data analysis, and simultaneous equations. Prerequisite: 467 or consent of instructor.

566-3 Mathematical Economics II. Linear economic models. Linear programming. Input-output analysis and general equilibrium models. Prerequisite: 340 or 440 or 465 or consent of instructor.

567-6 (3, 3) Econometrics I and II. (a) Linear regression analysis as applied to single equation economic models. Problems of least squares, maximum likelihood, and Bayesian estimation techniques in stochastic economic models. (b) Elements of asymptotic distribution theory and estimation techniques in multiple equation economic models. Take in a, b sequence except with consent of instructor. Prerequisite: 565, or Mathematics 483, or consent of instructor.

570-3 Seminar in Contemporary Microeconomic Theory. An investigation of recent developments and current controversies in economic theory with emphasis on microeconomic problems. Prerequisite: 540b.

571-3 Seminar in Contemporary Macroeconomic Theory. An investigation of recent developments and current controversies in economic theory with emphasis on macroeconomic problems. Prerequisite: 541b or consent of instructor.

583-3 Methodological Foundations of Economics. A systematic analysis of the nature, philosophical content, premises, scope, boundaries, and characteristic methods of economics. The history of economic thought is drawn upon, but major focus is upon the contemporary state of the discipline as well as upon apparent methodological trends. Prerequisite: 340 or 440, and 341, or 441, or consent of instructor.

585-3 Seminar in Social Economy. Interrelations between economic institutions and processes within the larger societal context. Applicable economic, political, and social theory, as well as empirical studies brought to bear. Prerequisite: 340 or 440 or consent of instructor.

590-1 to 8 (1 per semester) Seminar in Contemporary Economics. Presentation

and discussion of current research in economics. One hour credit per semester. Graded *S/U* only.

599-1 to 6 Thesis. Minimum of four hours to be counted toward a master's degree. Graded *S/U* only.

600-1 to 36 (1 to 16 per semester) Doctoral Dissertation. Hours and credit to be arranged by director of graduate studies. Graded *S/U* only.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Education

400-4 Student Teaching. A requirement in the undergraduate professional education sequence, 400 represents preliminary student teaching experiences necessary for certification entitlement. Enrollment in this course must be arranged through the Office of Professional Education Experiences. For undergraduate credit only. Students majoring in special education and seeking entitlement to more than one teaching certificate in the State of Illinois may in certain instances be allowed credit for up to 8 semester hours of Education 400. Such increase in hours shall be contingent on the student enrolling in 4 hours of Education 400 in each of the two semesters, and shall require the written permission of the coordinator of professional education experiences. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 350 and 401.

401-8 Student Teaching. A requirement in the undergraduate Professional Education Sequence, 401 concludes the student teaching experience necessary for certification entitlement. Enrollment in this course must be arranged through the Office of Professional Education Experiences. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 350 and 400.

450-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

550-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

590-4 Doctoral Seminar in Cultural

Foundations of Education. This seminar is one of two courses required for all students pursuing a doctoral program in the College of Education. The primary objectives are to aid in the development of the doctoral student's own nature and reflective theory of education; to help students pursue their scholarly activities in relation to the whole field of education; and to make the student aware of the resources of scholarship in other disciplines which might be said to be foundational to education. Prerequisite: admission to the Ph.D. program in education.

591-4 Doctoral Seminar in Behavioral Foundations of Education. This seminar is one of two courses required for all students pursuing a doctoral program in the College of Education. The primary objectives are to aid the student in describing the attitudes, assumptions, and practices which underlie empirical inquiry; to help the student to recognize the strengths and weaknesses of the various types of research in terms of methodology employed; and to aid the student in identifying and refining a research question and constructing a research design appropriate to answer the research question. Prerequisite: admission to the Ph.D. program in education.

Educational Leadership

421-3 The Law, The Teacher, and The Student. Legislative and case law including civil rights and responsibilities for the teacher and for the student.

430-3 History of Education in the United States. An historical study of the problems of American education.

432-3 Education and Social Forces. A study of the social forces that shape educational policies in the United States.

454-3 Contrasting Philosophies of Education. An examination of current educational problems and trends in the light of contrasting philosophies of education.

455-3 Introduction to Adult and Continuing Education. Introduces the multifaceted areas of adult and continuing education in traditional and non-traditional settings by reviewing and studying philosophies, directions, program efforts, and activities associated with them.

465-3 Organization and Administration of Adult and Community Education Programs. Review of methods and procedures for working with various types of adult programs and populations, for administering adult curricula programs and staff, for using area and state social services, and for program funding are the primary emphases of this course.

475-3 Administration of Staff Development Programs in Adult and Continuing Education. Review and examination of the needs, problems, administrative requirement, and alternatives available for staff develop-

ment in adult and continuing education. Emphasis will be placed on needs assessments, planning, and designing inservice or staff development programs to meet institutional needs and individual professional needs.

485-9 (3, 3, 3) Workshop in Adult and Continuing Education. The foci for these workshops are to provide quality educational experiences for students and practitioners in the field of adult and continuing education in three major areas: (a) the adult learner, (b) improvement of instruction and programs in adult education, and (c) evaluation in adult education.

500-3 Educational Research Methods. Introduction to educational research with practical training in research writing and evaluation techniques in education. Previous or concurrent enrollment in measurement and/or statistics recommended.

501-3 Educational Administration: Tasks and Processes. An examination of the administrative tasks and processes dealing with interaction within the school organization and between the organization and its environment. Components will be viewed for their essential interrelatedness as well as their unique aspects. Emphasis will be placed upon the processes by which change is brought about in dealing with decision making, programming, communication, motivating, controlling, and evaluating.

503-3 Educational Administration: Introduction to Theory. Examination of the various administrative tasks in light of established organizational models and leadership theories. The student will be introduced to a variety of theories, models, and concepts that have pertinence to the field of educational administration. Emphasis will be placed upon the methods of theory construction and the development of a theoretical orientation to the solution of administrative problems. The course draws heavily upon research done in the behavioral sciences.

505-2 Organization and Administration of the Middle and Junior High School. Focuses on the problems and processes of the administration and organization of the middle school or the junior high school.

507-3 Secondary School Principalship. Deals with problems met specifically by the high school principal. Emphasizes the principal's role in relation to guidance, curriculum, schedule-making, extra-curricular activities, public relations, budgeting of time, etc.

509-3 School-Community Relations and Development. Practical and theoretical aspects of public relations as applied in general and as applied specifically to educational institutions and efforts. Involved are the practical and theoretical considerations of educational institutions assisting in the further development of the community or communities in which they find themselves.

510-3 Foundations of Adult Education. This course reviews the socio-cultural, historical, psychological, economic, and philosophical considerations found in the broad

field of adult and continuing education and which serves as a foundation for instructional and curriculum development work in the field.

511-3 Organization and Administration of Curriculum. The organization and administration of the curriculum including the elements and sub-elements comprising a curriculum are the primary focus. Emphasis placed on a rationale, including the socio-cultural and psycho-philosophical factors, political forces and factors, goals, instructional activities, and evaluation. This course has general application to both elementary and secondary curriculum organization.

513-3 Supervision of Instruction. The function of the principal and/or supervisor in the improvement of instruction and in curriculum development. Activities, methods, and devices for improving the effectiveness of instruction stressed. Prerequisite: 511 or consent of instructor.

515-1 to 12 Current Issues in Educational Administration. An examination of current issues that affect the various administrative levels in educational systems. The issue selected receives intensive treatment and review.

517-3 The Legal Framework of Education. A study of administrative, judicial, statutory, and constitutional laws which have application in American public schools.

519-3 Illinois School Law. A study of administrative, judicial, statutory, and constitutional laws which have application in the Illinois public schools.

521-3 School Facilities. A study of the basic techniques and methods of planning new facilities and evaluating existing facilities. Major emphasis is placed on the preparation of the facility master plan and educational specifications. Other related topics to be studied include site selection and development, furniture and equipment, maintenance and operation, pupil transportation, and the finance of capital outlay programs.

523-3 Systems Analysis: An Application to Education. The application of methods which facilitate the planning, evaluation, and decision making processes as they relate to accountability, cost analysis efficiency, and effectiveness. Emphasis is placed upon understanding the "systems concept", planning and controlling within a system, system cost analysis, and managing a system.

525-3 School Finance Theory. A study of the principles and issues of public school finance. Basic theory, revenue systems, expenditures for public and non-public education, state foundation programs, federal aid programs, and local finance issues are studied in both the theory and contemporary settings. Specific emphasis is given to the Illinois public school financial support program in comparison to alternative formulas and methods as practiced in selected states.

527-3 School Business Administration. A study of the principles and practices governing management of business affairs of a public

school system. Included are such topics as revenues, expenditures, accounting, auditing, reporting, and applications of electronic data processing as a management tool. Practical experience is given in using the Illinois financial accounting manual as well as other managerial procedures. Detailed study is made of the role of the school business administrator in the local school district.

529-3 Supervision of Personnel: Problems. Supervision of personnel problems and tasks as they relate to educational organization and goals. Emphasis is given to an analysis of supervision of personnel problems arising from changing developments in organization.

530-3 Historical Research in Education. Seminar designed to explore the literature, methods, and possibilities of historical research in education.

531-3 School Boards and Policies. Focuses on superintendent-school board relationships. It investigates the administrative team's role and functions as they relate to leadership in educational policy making.

533-3 Elementary School Principalship. A critical study of research and writing with implications for the elementary principalship. Designed to meet many of the particular needs of persons interested in becoming elementary principals. Other persons such as teachers, superintendents, and staff personnel will gain insight into problems and responsibilities of the elementary principal's role.

539-3 Evaluation and Accreditation in Schools. Developed to familiarize pre- and in-service teachers and administrators with the purpose, processes, roles, and instrumentation utilized by regional and state accreditation agencies. It is designed to prepare professional educators to implement both evaluator-evaluated roles in the systematic process of accreditation and educational improvement at the local school level. It may be delivered on campus through simulated activities or on site in conjunction with real school evaluations. Prerequisite: consent of instructor.

541-3 Personnel Evaluation. Directed toward the development of personnel evaluation systems for educational institutions. It will encompass both certificated and non-certificated personnel and examine a variety of methods/means approaches. The legal ramifications of evaluation and the use of evaluative data will be discussed in light of current federal and state laws and court decisions with respect to teacher tenure, due process, and other principles.

551-3 Educational Leadership: Politics of Education. An examination of the political setting of educational administration selected leadership practices, and a general study of leadership theory. This course is open to students in approved sixth-year and doctoral programs only. In addition to educational leadership related to the politics of education, emphasis is given to innovative and contemporary practices of school administration.

552-3 Seminar in Comparative Educa-

tion. A general introduction to comparative and international education. Comparison of educational ideas and practices of various countries in major regions of the world.

553-3 Educational Leadership: Systems and Accountability. An in-depth study and examination of the methods of determining accountability in education. An examination of educational organizations as complex systems will be made in conjunction with the application of specific administrative techniques applied to practical educational problems. Cost, time, and demand functions will be analyzed from an efficiency and effectiveness standpoint. Open to approved sixth-year and doctoral students. Prerequisite: 551.

554-3 Seminar in Philosophy of Education. An interpretation of modern educational problems and trends in the light of basic philosophical viewpoints. Excerpts from the leading philosophical writings are used. Prerequisite: consent of instructor.

555-3 Advanced Educational Administration Theory. An advanced seminar devoted to the study of classical and modern theories concerning the administration of complex organizations. Particular emphasis is placed on organizations as social units that pursue specific goals which they are structured to serve. The major areas of study are organizational goals, organizational structure, and organizations and their social environment. Prerequisite: 503 or equivalent.

556-3 Seminar in History of European Education. A survey and interpretation of education in Europe from the Greek era to the present. Stresses the relationship of European to American education.

558-3 to 9 (3, 3, 3) Advanced Seminar in Comparative Education. A study of foreign educational systems in historical, cultural, political, and world perspective. Areas of the world or specific countries are indicated by the following letters: (e) England, (m) Mexico, (s) Soviet Union.

559-3 Interdisciplinary Seminar in Educational Administration I. Seminar designed to assist specialist and doctoral students in understanding cognitive disciplines which relate directly to administrative competence. It is part of a two-part sequence which treats topics in political science, sociology, and communicative skills.

560-3 Education and Culture. A study of the concept of culture and its relation to the process of education.

561-3 Interdisciplinary Seminar in Educational Administration II. Seminar designed to assist specialist and doctoral students in understanding cognitive disciplines that relate to administrative competence. It covers areas in economics, anthropology, history, philosophy, etc.

562-3 Education and the American Way of Life. An exploration of the themes that have shaped life in the United States and the relation of these themes to education.

564-3 Education and the Challenges of the Twentieth Century. An exploration of major movements in the contemporary world in terms of their importance for American education.

565-3 Continuing Education and Extension Services. An in-depth examination of extension services and continuing education programs and delivery systems associated with post-secondary institutions, industrial and commercial organizations, professional associations, and governmental agencies will be made. Course emphasis is given to such learning programs as conferences, credit courses, non-credit courses, learning referral services, non-traditional degree programs, and social service activities. Prerequisite: consent of instructor.

575-3 Seminar in Adult and Continuing Education. A content and research course focusing on selected topics in the area of adult and continuing education. Topics vary depending upon needs of students and competencies of staff. Prerequisite: consent of instructor.

588-3 to 9 General Graduate Seminar. Selected topics or problems in cultural foundations of education. Prerequisite: advanced standing and consent of instructor.

590-1 to 6 Readings. Advanced reading in one of the following areas: (a) administration, (b) buildings, (c) supervision of curriculum, (d) finance, (e) school law, (f) supervision, (g) comparative education, (h) history of education, (i) philosophy of education, (j) sociology of education, (k) adult and community education. Prerequisite: consent of instructor.

593-1 to 3 per topic Individual Research. Maximum of six hours toward master's degree. Selection, investigation, and writing of a research assignment under the personal supervision of a graduate faculty member in one of the following areas: (a) administration, (b) buildings, (c) supervision of curriculum, (d) finance, (e) school law, (f) supervision, (g) comparative education, (h) history of education, (i) philosophy of education, (j) sociology of education, (k) adult and community education. Prerequisite: consent of instructor.

595-1 to 8 Internships. Theory and practice in educational administration in cooperation with a work experience in an educational setting. (a) Educational administration, and (b) adult and continuing education. consent of student's adviser or committee and chairperson.

596-1 to 6 Independent Investigation. Field study required of each student working for the sixth year specialist degree.

597-1 to 8 Externship. Externship conducted at home institution of Fellows in the federally funded program "Developing Leaders in Developing Institutions." The student, cooperating with the program director and president of the home institution, identifies a major problem at the home institution which becomes a focus of the student's dissertation. (a) Educational administration, and (b) adult and continuing education.

599-1 to 6 Thesis.

600-1 to 36 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Engineering

Safety glasses, a hand-held scientific calculator, and textbooks are required of all electrical sciences and systems engineering students.

443-4 Engineering Design. Projects of an engineering systems design nature. Students select a problem, define and design the various subsystems, define subsystem interface requirements, integrate the subsystems into the final design, and document the design effort. Laboratory. Not for graduate credit in engineering. Prerequisite: senior standing in engineering.

455-3 Engineering Geology. (See Geology 455.)

Electrical Sciences and Systems Engineering

Graduate work in the Department of Electrical Sciences and Systems Engineering is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

421-2 Digital Computers in Applied Physical Research. Computational techniques for matrix inversion, solution of linear equations, and characteristic roots and vectors. Least squares analysis, curve-fitting, and regression. Numerical quadrature. Solution of nonlinear equations. Solution of regular differential equations and boundary-value problems. Generation of approximate solutions. Monte Carlo techniques. Engineering and other physical examples are used as the primary teaching vehicle. Prerequisite: Engineering 222 and Mathematics 305. Elective Pass/Fail.

426-4 Microcomputer Systems. Application and makeup of microcomputer systems. Microprocessor programming and applica-

tions with various interface devices including input/output ports, analog-to-digital and digital-to-analog converters. Lecture, laboratory, and design project. Prerequisite: Engineering 222, 225, and 345 or consent of instructor.

427-3 Digital Systems Design I. Advanced concepts in combinational and sequential circuit design including system design procedures and register transfer languages. Prerequisite: Engineering 222, 225, and 345 or consent of instructor.

446-4 Electronic Circuit Design. Design techniques for a wide range of electronic circuits. Device and circuit modeling. Computer aided circuit design. Consideration of audio, video, and tuned amplifiers; feedback; oscillators; digital circuits. Design project. Lecture and laboratory. Prerequisite: 455 or concurrent enrollment; Engineering 345.

447-3 Applications of Electronic Devices. Physical mechanisms governing the operation of a wide variety of semiconductor devices. Applications of specific devices are used to illustrate performance characteristics and the relation between device design parameters and terminal properties. Prerequisite: Engineering 222, 312, and 345.

455-3 Linear Systems. Fundamental techniques in analysis of linear systems. Transient analysis of linear electrical networks and analogous systems by classical, Laplace-transform, and computer techniques. Feedback, frequency response, and state variables. Prerequisite: Engineering 335 and Mathematics 305.

456-3 Control Theory. Fundamentals and techniques for analysis and design of systems with feedback. Signal flow graphs. S-plane analysis. Frequency-domain analysis. Root locus. Stability conditions. Compensation techniques. Prerequisite: 455.

457-3 Systems Theory. In-depth study of system such as interaction, anticipation, feedback, feedforward, stability, and memory. Methods which maintain flexibility and generality in dealing with all types of engineering systems. Prerequisite: Mathematics 305 or consent of instructor.

458-3 Communications Theory. Basic information theory. Fourier series and transform. Sampling theory. Amplitude modulation, frequency modulation, and pulse modulation. Signal-to-noise ratio. Statistical methods. Prerequisite: 455.

461-4 Bio-electricity and Biomedical Instrumentation. Interdisciplinary course primarily for life-science students. Electromagnetics relative to living systems. Circuit analysis. Functional electronics. Electric safety. Specific clinical and research instrumentation. Lecture and laboratory.

465-3 Instrumentation. Theory and practice related to measurement systems for research and industry. Instrument characteristics. Techniques in analog and digital instrumentation. Transducers. Signal conditioners. Output and display systems. Statistics of measurement.

Design project. Lecture and laboratory. Prerequisite: Engineering 345.

476-3 Electromagnetic Fields I. Electric and magnetic fields using vector analysis. Evolution of Maxwell's equations through the laws of Coulomb, Gauss, Ampere, and Faraday. Concepts of energy and potential. Poisson and Laplace fields. Wave equation and plane waves. Transmission lines. Prerequisite: Mathematics 305.

477-3 Electromagnetic Fields II and Microwaves. Application of Maxwell's equations and the laws of electromagnetics to boundary-value problems, microwave devices, guiding structures, and radiating structures. Poynting's theorem and energy relationships. Lecture and laboratory. Prerequisite: 476.

486-3 Electric Energy Sources. Principles and utilization of nuclear, solar, and fossil-fuel generators. Direct energy converters including thermionic, thermoelectric, and photovoltaic. Prerequisite: Engineering 385 or consent of instructor.

487-4 Power Systems Analysis I. Introduction to analysis of electric power systems. Modeling of power system components. Power system configuration. Control of power and frequency. Control of voltage and reactive power. Load-flow analysis. Introduction to symmetrical components. Prerequisite: Engineering 385.

488-3 Power Systems Engineering. Network analysis applied to power systems; load-flow concept; economic operation of power systems; stability. Prerequisite: 487.

492-1 to 5 Special Problems in Engineering. Topics and problems selected either by student or instructor. Prerequisite: senior standing and consent of instructor.

527-3 Digital Systems Design II. State-of-the-art digital design and switching theory topics. Prerequisite: 427.

536-3 Network Synthesis. Introduction to modern network synthesis. Driving point and transfer functions. Positive, real functions, Foster networks, and Cauer networks. Active network elements. Synthesis using active elements. Prerequisite: 445 or consent of instructor.

547-3 Solid-State Theory of Electronic Materials. Electronic properties of materials and their application to practical devices. Quantum and statistical mechanics. Semiconductor principles and devices. Thermoelectric phenomena. Magnetic materials. Quantum electronics and lasers. Prerequisite: consent of instructor.

556-3 Modern Control Theory. Introduction to topics in modern control theory. State variables. Concepts of controllability and observability. Stability theory. Nonlinear control. Sampled-data control theory. Signal-modulated systems. Optimal control. Prerequisite: 456 or consent of instructor.

557-6 (3, 3) Complex Systems. Theory, techniques, and philosophy of analyzing and designing complex engineering systems.

Methods which maintain generality in dealing with complex combinations of diverse subsystems such as electrical, mechanical, chemical, transport, and biological. Prerequisite: 457 or consent of instructor.

577-4 Electromagnetic Fields III. Application of Maxwell's equations and the laws of electromagnetics to more advanced boundary-value problems, circuits, propagation and reflection, guiding structures, and antennas. Prerequisite: 477 or consent of instructor.

580-1 to 4 Seminar. Collective and individual study of selected issues and problems relating to various engineering areas.

586-3 Power Systems Analysis II. Techniques for solving power system problems. Network reduction. Load-flow, short-circuit, and transient-stability studies. Utilization of digital and analog computers. Prerequisite: 487.

592-1 to 5 Special Investigations in Engineering. Advanced engineering topics or problems. Prerequisite: graduate standing and consent of instructor.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Engineering Mechanics and Materials

Graduate work in the Department of Engineering Mechanics and Materials is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

409-3 Hydrology and Hydraulic Engineering Design. Study of the hydrologic cycle. Streamflow analysis. Unit hydrograph. Matrix methods; synthetic methods. Frequency analysis; multivariate distributions. Hydrologic and hydraulic routings. Groundwater hydrology. Application of hydrology to the design of various hydraulic structures; small dams, spillways, drainage systems. Prerequisite: Engineering 313 or equivalent or consent of instructor. Elective Pass/Fail.

413-3 Fluid Systems Design. Two to three week projects involving the identification, modeling, analysis, and design of fluid-engineering systems. Prerequisite: Engineering 313.

414-3 Intermediate Fluid Mechanics. A development of the governing equations of motion including the continuity, Navier-Stokes, and energy equations. Application of these equations to potential, viscous, and compressible flows. Isentropic flow of a perfect gas. Normal and oblique shock waves, Prandtl-Meyer flow. Prerequisite: Engineering 313 or equivalent.

419-3 Soil Mechanics and Foundation Engineering Design. Study of soil behavior and its application in foundation engineering. Laboratory. Soil-water systems and interactive forces; stress-strain characteristics; effective stress concept; drained and undrained conditions for saturated soils; theory of consolidation. Design of retaining walls, earth dams, shallow and deep foundations. Prerequisite: Engineering 311; 313; or consent of instructor.

440-3 Structures. An introduction to structural engineering. The design procedure. Loads. Types of structures. Structural materials, safety. Social and environmental considerations. Analysis of structures. Influence lines. Deflections. Slope deflection. Moment distribution. Matrix methods. Prerequisite: Engineering 311 or consent of instructor.

441-3 Vibration in the Design of Machines and Structures. Theory: review of second order ordinary linear differential equations. Matrices and determinants. Phasor and trigonometric solutions, Duhamel integrals, Fourier Series. Applications: motor and equipment mounts, deflection of rotating shafts, resonance, dynamic balancing, vibration absorbers, vibrometer and accelerometer design, analysis of accelerometer and vibrometer data, seismic loads on buildings, vehicle suspensions, vibration of geared systems, vibration linkages. Prerequisite: Engineering 260b and Mathematics 305.

442-3 Structural Steel Design. An introduction to structural steel design with emphasis on buildings. Composite design. Plate girders. Rigid frames. Prerequisite: 440 or consent of instructor.

444-3 Reinforced Concrete Design. Behavior and strength design of reinforced concrete beams, slabs, compression members, and footings. Prerequisite: 440 or consent of instructor.

447-2 Intermediate Mechanics of Materials and Structures. Shear center for beams. Unsymmetrical bending. Flexure of curved members. Contact stresses. Energy methods. Inelasticity in one dimension. Buckling formulas. Prerequisite: Engineering 311.

448-3 Experimental Stress Analysis. Development of theoretical equations of stress and strain and their transformations. Equations of equilibrium; compatibility equations; stress functions; applications of these equations in stress measurements; study of optical, mechanical, and electrical strain gauges; brittle coating; Moiré' technique; and two-dimensional photoelasticity. Laboratory. Prerequisite: Engineering 311.

449-2 Intermediate Dynamics. Kinematics

and kinetics of plane and three-dimensional motion. The principles of work and energy applied to the motion of rigid bodies. The principle of impulse-momentum applied to variable mass and rigid body systems including gyroscopic motion. Vibrational analysis of single degree of freedom systems. Prerequisite: Engineering 260b.

451-3 Numerical Methods in Mechanics. An introduction to the available numerical methods and techniques which are employed to solve engineering problems with special emphasis devoted to areas of mechanics involving stress analysis, vibrations, fluid flows, mechanisms, and structures. Prerequisite: Engineering 222, 311, 313 or consent of instructor.

458-2 Photoelasticity. Optics related to photoelasticity; theory of photoelasticity; photoelastic materials; analysis techniques; two-dimensional and three-dimensional photoelasticity; birefringent coatings; scattered light photoelasticity; application of photoelastic methods. Laboratory. Prerequisite: Engineering 311.

462-3 Matrix Methods of Structural Analysis. Flexibility methods and stiffness method applied to framed structures. Introduction to finite elements. Prerequisite: 440 and Engineering 222 or consent of instructor.

464-2 Physical Metallurgy and Ceramics. Structure/composition determination for bulk and surfaces. Thermodynamics of solutions. Phase transformations. Structure and properties of aggregate and composite materials. Corrosion. Dislocation theory. Plastic flow. Fracture. Failure analysis. Prerequisite: Engineering 312.

465-3 Materials Preparation and Processing. Forming and processing of materials. Solidification: single crystal techniques, plane front and dendritic solidification, microsegregation, nonequilibrium structures. Vapor deposition: fractionation, physical vapor deposition, ion plating, sputtering. Thermal processing of solids: homogenization, crystallization, precipitation. Powder preparation, sintering and densification. Deformation processing: rolling, forging, extrusion, drawing, preferred orientation. Prerequisite: 464.

470-3 Engineering Analysis. Methods of solution for basic ordinary differential equations with applications to engineering systems. Basic methods of solution for partial differential equations with emphasis on applications of the Laplace, Poisson, and heat equations to engineering problems. Basic vector field theory; transformation theorems. Simulation techniques applied to engineering systems. Prerequisite: Mathematics 305 or equivalent.

472-3 Materials Selection for Design. Interaction of design parameters and materials selection parameters; comparison of alternative materials, thermomechanical processing, fabrication, joining methods, materials compatibility, and cost analysis. Projects in the selection of materials, processing and fabrication to meet the requirements of a design in the

students' areas of specialization. Prerequisite: Engineering 312.

475-3 Mechanical Systems Design. Working stresses, shafting, springs, belts, other machine elements. Lubrication theory and practice, gears, belt drives, chains. Taught from text, association manuals, manufacturer's handbooks. Prerequisite: Engineering 260b, 311 or equivalent.

492-1 to 4 Special Problems in Engineering. Selected engineering topics or problems in (a) stress analysis, (b) flow analysis, (c) structural engineering, (d) computational mechanics, (e) materials engineering and (f) dynamics. Four hours maximum course credit. Prerequisite: consent of instructor.

504-3 X-Ray Diffraction and the Solid State. (Same as Physics 571.) X-ray diffraction by atoms, molecules and crystals, Fourier transforms, convolution, electron density, and Patterson functions. Single crystal methods. Temperature diffuse scattering; determination of elastic constants, dispersion effects, and vibration spectra. X-ray scattering by non-crystalline forms of matter. X-ray powder methods; determination of precise lattice constants, thermal expansion, strain, quantitative analysis of mixtures. X-ray studies of order-disorder. Diffraction by imperfect crystals. Applications to atomic diffusion measurements. Prerequisite: 464 or consent of instructor.

505-3 Physical Properties of Crystalline Materials. Thermal expansion, compressibility, and magnetic and electrical properties in relation to crystal structure. Influence of temperature. Piezoelectricity and pyromagnetism. Ferroelectricity and ferroelectrics. Antiferroelectrics. Ferromagnetic crystals, antiferromagnetics. Domain structures. Phase transitions. Ionic polarizabilities. Influence of temperature. Influence of structure in crystal optics. Molecular refractivity. Structural theory of optical activity. Elasticity and crystal structure. Piezoelectricity. Plastic deformation. Slip. Creep. Cleavage. Prerequisite: 464.

506-3 Solidification Processing. Heat flow in solidification. Plane front, cellular, dendritic, eutectic, and spherulitic micromorphologies. Micro and macro segregation. Fluid flow during solidification. Processing and properties of castings. Rapid nonequilibrium solidification techniques. Prerequisite: 464.

510-3 Computational Fluid Dynamics. Advanced topics in the computer solution of complex 2-D and 3-D fluid flows. Consideration of various finite difference formulations in different coordinate systems. Upwind differencing, stability analysis, explicit methods, implicit methods, boundary condition formulation. Introduction to finite element approach. Prerequisite: EMM 414 and EMM 451 or consent of instructor.

512-3 Introduction to Theoretical Elasticity. Tensor analysis in curvilinear coordinates, definitions of stress and strain, equations of elasticity and examples of their application in one and two dimensions. Prerequisite: consent of instructor.

513-3 Mechanics of Viscous Fluids. Theory of laminar viscous flows using the continuum approach. The stress and rate-of-deformation tensors; exact solutions including slow motion and problems of the laminar boundary type. Introduction to hydrodynamic stability. Prerequisite: 414 or consent of instructor.

514-3 Mechanics of Inviscid Fluids. A study of stream functions, the velocity potential, Euler equations, Bernoulli equations, various solutions to Laplace's equation, added masses, Taylor theorem, Blasius and Kármán theorems, two-dimensional irrotational flows, Cauchy-Riemann equations, conformal mapping, vortex flow, thin airfoil theory, and freestreamline flows. Prerequisite: 414 or consent of instructor.

515-2 Wave Motion. Wave motion in strings and bars. Surface waves in liquids and solids. Sound waves, seismic waves. Method of characteristics and Fourier methods. Prerequisite: consent of instructor.

518-3 Introduction to Turbulence. Application of the basic equations of motion to turbulent flow problems. Reynolds equations; turbulence energy equations; description of the structure of turbulence; correlation and spectrum functions, macro, micro, and time scales; phenomenological theories; free shear and wall shear flows. Hot-wire anemometry; Laser Doppler anemometry. Prerequisite: 414 or equivalent or consent of instructor.

520-3 Finite Element Analysis. Theoretical basis for finite elements in engineering mechanics. Derivation of element equations by displacement and variational methods for use in the solution of two- and three-dimensional stress problems; plate bending and shell problems; introduction to dynamic and non-linear analysis, applications to fluid mechanics. Prerequisite: 462 or consent of instructor.

540-2 Elastic Stability. Bending of beam columns under simultaneous action of axial and lateral loads; buckling of compressed bars, frames, rings, and arches; lateral buckling of beams; torsion of I beams; buckling of thin plates. Prerequisite: Mathematics 305 or 407 or consent of instructor.

542-2 Theory of Plates. Analysis of bending and vibration of plates of various shapes; energy method; complex variables methods, linear and non-linear behavior; theory of bending of anisotropic and non-homogeneous plates. Prerequisite: Mathematics 305 or 407 or consent of instructor.

544-3 Advanced Design of Reinforced Concrete. Torsion. Yield-line theory. Columns in biaxial bending. Continuous beams and frames. Arch and shell roofs. Prestressed concrete. Prerequisite: 444 or consent of instructor.

545-3 Inelastic Metal Structures. Rigid-plastic and elastic-plastic behavior, analysis, and design of metal structures including slender members and skeletal frames. Design of multi-story buildings and bridges. Prerequisite: 442 or consent of instructor.

550-3 Advanced Compressible Fluid Flow. Multidimensional compressible flow. Linearized equations of motion. Method of characteristics. Rarefied gas dynamics. Hypersonic flow. Transonic flow. Prerequisite: 414 or equivalent.

561-3 Intermediate Vibrations. Lagrangian equations for several degrees of freedom, methods of finding natural frequencies, matrix methods, applications. Prerequisite: 441 or equivalent.

580-1 to 4 Seminar. Collective and individual study of selected issues and problems relating to various engineering areas. Prerequisite: graduate standing.

592-1 to 4 Special Investigations in Engineering. Advanced engineering topics and/or problems in (a) stress analysis, (b) fluid flow analysis, (c) structural engineering, (d) computational mechanics, (e) materials engineering, and (f) dynamics. Prerequisite: graduate standing and consent of instructor.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Thermal and Environmental Engineering

Graduate work in the Department of Thermal and Environmental Engineering is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

400-3 Power and Refrigeration Cycles. Use of engineering thermodynamics in analysis of power and refrigeration cycles. Detailed treatment of various gas and vapor power cycles including combined gas and steam cycles. Thermodynamics of combustion. Gas and vapor refrigeration cycles. First and Second Law analysis of turbo-machinery. Prerequisite: Engineering 300.

401-1 Thermal Measurements Laboratory. Study of basic physical measurements used in the thermal sciences. Calibration techniques for temperature sensors. Transient and steady-state error analysis. Thermal and transport property measurements. Prerequisite: Engineering 302.

402-3 Heat Exchange Equipment Design.

Thermal radiation. Radiation with participating media. Combined convection and radiation. Principles of furnace design. Moist air heating and cooling coils. Enthalpy potential. Cooling coil design. Refrigerant evaporators and condensers. Two-phase flow regions. Freon heat exchangers. Heat pipes. Prerequisite: Engineering 222, 300, 302, and 313.

404-4 Optimization of Process Systems. The simulation and optimization of industrial process systems based on the principles of thermodynamics, heat transfer, mass transfer, and fluid mechanics. The analysis and correlation of experimental engineering data, and the use of the correlated data in process simulations. The mathematical modeling of the performance of energy transfer and environmental treatment equipment (pumps, turbines, mass and heat exchangers, etc.) from analytical predictions and experimental results. The application of the principal optimization methods encountered in engineering practice. Computer applications. Prerequisite: Engineering 361, Mathematics 305 and senior standing in engineering.

405-3 Internal Combustion Engines and Gas Turbines. Operation and performance characteristics of Otto, Diesel, Wankel engines, and gas turbines. Methods of engine testing, types of fuels and their characteristics, fuel metering systems, engine combustion analysis as related to engine performance, fuel characteristics and air pollution, exhaust gas analysis, and air pollution control. Prerequisite: 301.

406-3 Thermal Systems Design. Application of the principles of engineering analysis to the design of thermal systems. Consideration of such systems as refrigerators, building air conditioning systems, spacecraft control systems, solar heating systems, and gas liquefying systems. Prerequisite: Engineering 300, 302.

407-3 Solar Heating Design. Characteristics of solar energy. Determining available solar energy. Theory and application of the solar design process. Performance calculations and component design of passive and active heating systems for residences and small building. Prerequisite: Engineering 300 and 302.

408-3 Energy Conversion and Conservation Systems. Energy resources, renewable and nonrenewable, their use and development. Criteria for selecting alternative energy systems. Energy conversion systems for power generation: nuclear fission, nuclear fusion, fossil fuels; geothermal and solar energy. Societal, economic, and environmental constraints on design and utilization of the energy conversion systems. Principles of energy conservation; applications. Emphasis on analysis and engineering design of engineering systems. Prerequisite: Engineering 300.

415-3 Wastewater Treatment. A study of the design equations used in physical, chemical, and biological treatment processes and comparison to design by state standards.

Basics of bacteria and their metabolic processes in the degradation of organic wastes. Treatment and disposal of sludges produced in wastewater treatment. Advanced waste treatment processes; reuse of wastewater. Concurrent enrollment in 417 is recommended for students in thermal and environmental engineering option. Prerequisite: 314.

416-3 Air Pollution Control. Engineering control theory, procedures, equipment, and economics related to particulate and gaseous emissions control. The environmental impact of controlling emissions. Sampling and analysis procedures. Laboratory work includes design, construction, and use of a source sampling system. Safety glasses are required. Concurrent enrollment in 418 is recommended for students in thermal and environmental engineering option. Prerequisite: 314.

417-1 Water Quality Laboratory. Measurements of water quality parameters performed. Use of modern instrumental techniques demonstrated. Safety glasses are required. Prerequisite: 314.

418-1 Air Quality Laboratory. This laboratory consists of design, construction, and use of systems to measure and analyze ambient atmospheric pollution. Safety glasses required. Prerequisite: concurrent enrollment in 416.

419-3 Water Supply and Treatment. Water quality requirements, water sources, water treatment to include coagulation and flocculation, mixing and sedimentation basins, filtration, disinfection processes, and water softening. Consideration of toxic elements in water (sources, problems, and treatments). Prerequisite: 314.

423-3 Waste Heat Management. Energy sources and waste heat produced in their utilization. Management of heated surface water effluents to minimize their ecological impact; chemical, physical, and biological. Methods of waste heat disposal from electric power plants. Selection and design of waste heat disposal system. Prerequisite: 314, Engineering 300 or consent of instructor.

435-3 Heat and Mass Transfer Processes. Review of single phase and two phase heat transfer. Heat exchanger design. Mass transfer principles and processes. Processes involving simultaneous heat and mass transfer. Prerequisite: 302.

492-1 to 5 Special Problems in Engineering. Engineering topics and problems selected by either the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

500-3 Advanced Engineering Thermodynamics. Principles of kinetic theory and classical statistical mechanics applied to thermodynamic systems. Statistical interpretation of the equilibrium state and thermodynamic properties of engineering systems. Introduction to irreversible thermodynamics with engineering examples. Prerequisite: Engineering 300.

501-3 Transport Phenomena. Mechanism of heat, mass, and momentum transport on both molecular and continuum basis. Estimation of transport properties. Generalized transport equations in one- or three-dimensional systems. Analogy of mass, heat, and momentum transfer. Macroscopic balances, simultaneous mass, and heat transfer. Prerequisite: Engineering 302.

502-3 Advanced Heat Transfer. Engineering considerations involved in the construction of mathematical and numerical models and the interpretation of results of analyses of conduction and radiation heat transfer mechanisms. Prerequisite: Engineering 302.

503-3 Convective Heat Transfer. Laminar and turbulent convective heat transfer over surfaces and inside tubes. Heat transfer inside non-circular tubes. Heat transfer in developing flows. Heat transfer at high velocities. Influence of temperature-dependent properties. Prerequisite: Engineering 302.

507-3 Combustion Phenomena. Basic combustion phenomena-chemical rate processes-flame temperature, burning velocity, ignition energy, quenching distance, and inflammability limits-laminar and turbulent flame propagation-aerodynamics of flame-gaseous detonations-two phase combustion phenomena-fluidized bed combustion. Prerequisite: Engineering 300.

510-3 Solid Waste Collection and Disposal. Basic concepts and theory of solid waste collection and disposal systems.

515-3 Advanced Biological Treatment Processes. The biochemical and microbial aspects of converting substrate to bacterial cell mass or products and its use in various phases of industry (both fermentation and wastewater treatment). Design of activated sludge and trickling filter plants from lab data obtained on explicit wastes from both industry and municipalities. Prerequisite: 415.

516-3 Water Resources Management. Water quality factors and control methods. Technical, economic, social, and legal aspects concerned with implementation of various engineered systems for water quality management. Case studies. Prerequisite: 415.

517-3 Industrial Waste Treatment. Theories and methods of treating industrial wastes. Case studies of major industrial waste problems and their solutions. Prerequisite: 415.

520-3 Coal Conversion and Combustion Processes. The major presentday and proposed processes converting coal to other energy forms (gaseous and liquid fuels, coke, steam, electricity, etc.). Coal properties and chemical reaction relationships affecting conversion process paths. Design of coal gasification, liquefaction, combustion, and carbonization reactor systems. Environmental assessment and cost considerations related to coal conversion. Prerequisite: graduate standing or consent of instructor.

525-3 Small Particle Phenomena. Small particle formation, behavior, properties, emis-

sion, collection, analysis, and sampling. Includes atomization, combustion, transport of suspension and sols, filtration, light scattering, and movement patterns of mono and poly-disperse particles and use of a device to measure size, size distribution, and one other physical property of an aerosol. Prerequisite: graduate standing.

531-4 Reaction Engineering and Rate Processes. Chemical kinetics of homogeneous and heterogeneous reactions, kinetic theories, mechanism and mathematical modeling. Reactor design. Design of multiple reactions; temperature and pressure effects. Nonisothermal and nonadiabatic processes. Non-ideal reactors. Prerequisite: 435.

532-3 Separation Processes and Equilibrium Operations. Phase equilibrium, multistage calculations, graphical methods, unsteady-state stagewise operations. Multicomponent systems. Rate separation processes. Applications in processing industry. Prerequisite: 435.

580-1 to 4 Seminar. Collective and individual study of issues relating to thermal and environmental engineering. Four hours maximum course credit.

592-1 to 4 Special Investigations in Engineering. Advanced topics in thermal and environmental engineering. Topics are selected by mutual agreement of the student and instructor. Four hours maximum course credit. Prerequisite: consent of instructor and department chairperson.

599-1 to 6 Thesis. Six hours maximum course credit.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Engineering Biophysics

492-1 to 5 (1 per semester) Colloquy in Engineering Biophysics I. Discussion of topics related to engineering biophysics; guest lecturers, field trips. Offered in spring semesters only. Required for undergraduate engineering biophysics majors. Mandatory Pass/Fail.

592-1 to 3 (1 per semester) Colloquy in Engineering Biophysics II. Discussion of topics related to engineering biophysics; guest lecturers, field trips. Offered in spring semesters only. Required for graduate students majoring in engineering biophysics. Graded *S/U* only.

598-1 to 6 Internship in Engineering Biophysics. The fifth year in the engineering

biophysics program emphasizes course in physiology, psychology, and speech pathology and audiology. Those studies provide a basis for the internships in selected hospitals and in laboratories in industry and government. The internship is a requirement for completing the graduate program and might well be accomplished in the summer session of the graduate year.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Engineering Technology

There is no graduate program offered through engineering technology. Four-hundred-level courses in this listing may be taken for graduate credit unless otherwise indicated in the course description.

The student is required to purchase photographs and maps for certain courses, and a suitable slide rule is strongly recommended for most courses. Cost is approximately \$10 to \$25.

403-8 (4,4) Electronics Technology. (a) Fundamental theory and operation of semiconductor diodes and bipolar transistors, incremental models for transistors, biasing, stability, and feedback of single and multistage amplifiers. Parameters and applications of field-effect transistors, opto-electronic devices, thyristors, unijunction transistors, and amorphous semiconductors. Laboratory. (b) Parameters and applications of operational amplifiers, linear integrated circuits, monolithic voltage regulators, and digital integrated circuits. Laboratory. Must be taken in a, b sequence. Prerequisite: 304b.

415-4 Elementary Structural Design. Introduction to structural properties of steel and reinforced concrete. Design of basic steel elements: tension members, beams, columns, and connections. Basic design of reinforced concrete elements: beams, columns, and footings. Use of AISI and ACI codes. Prerequisite: 311 (or concurrent enrollment), 315.

424-6 (3, 3) Power Systems Technology. (a) Fundamentals of basic power plant operation and equipment; e.g., fuels, steam generators, heat exchangers, turbines, pumps, and nuclear reactors. Prerequisite: 313a. (b) A study

of cycles, heat balances, efficiencies, and power plant economics. Student is exposed to the design considerations and trade-offs associated with the total design of power plant. Prerequisite: 313b, 318b, 424a.

426-4 (2, 2) Photogrammetry. (a) Cameras and photography; flight planning; mathematical principles of vertical and tilted aerial photographs, ground control methods; extension of control; stereoscopy and parallax; basic instruments, stereo plotters, and latest tilted photographs; stereoscopic plotting instruments; principles and use of oblique photography; analytic photogrammetry and new concepts. Laboratory. Prerequisite: 426a or consent of instructor.

437-6 (3, 3) Communications Systems Technology. (a) Radio-frequency transmission-line theory. Electromagnetic fields in rectangular and circular waveguides. Laboratory. Prerequisite: 304b. (b) Communication systems with a unified treatment of various types of transmission systems with emphasis on the role of system bandwidth and noise in limiting the transmission of information. Laboratory. Prerequisite: 403a, 437a.

438-8 (4, 4) Design of Control and Digital Systems. (a) Fundamentals of control systems; equations of electrical, mechanical, hydraulic, and thermal systems; applications of Laplace transforms, transfer functions, block diagrams, and flow graphs. Computer implemented graphical analysis and design methods: root locus, frequency response, Nyquist diagrams, and compensator design. Continuous-systems simulation laboratory. Prerequisite: 304b, Engineering 222. (b) Design of digital systems; logic operations; number systems and applications. Digital systems simulation laboratory. Prerequisite: Engineering 222.

439-3 Microprocessor Applications and Hardware. A study of microprocessor applications and hardware based on microprocessor manufacturer's literature. System configuration, hardware, requirements, typical instruction set, programming, input/output techniques, interfaces, and peripheral devices. Prerequisite: 438b or concurrent enrollment.

492-1 to 6 Special Problems in Industry and Technology. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected technical problems. Prerequisite: consent of instructor.

English

400-3 Introduction to English Linguistics. Methods of structuralizing: phonetics, phonemics, morphemics, syntax. Especially recommended for students preparing to teach English to native speakers. Elective Pass/Fail.

403-3 History of the English Language. A survey of the development of the language from Indo-European to modern English with

special emphasis on Middle and Early Modern changes. Elective Pass/Fail.

404-3 Middle English Literature Excluding Chaucer. Elective Pass/Fail.

405-3 Middle English Literature: Chaucer. Elective Pass/Fail.

412-3 English Non-Dramatic Literature: The Renaissance. Elective Pass/Fail.

413-3 English Non-Dramatic Literature: The Restoration and Earlier Eighteenth Century. Elective Pass/Fail.

414-3 English Non-Dramatic Literature: The Later Eighteenth Century. Elective Pass/Fail.

417-3 Black Literature. Studies in American and African Black literature, with major emphasis upon contemporary Black expression. Elective Pass/Fail.

421-3 English Romantic Literature. Elective Pass/Fail.

422-3 Victorian Poetry. Victorian poets: Tennyson, Browning, Arnold, and other poets in England. Elective Pass/Fail.

423-3 Modern British Poetry. Elective Pass/Fail.

425-3 Modern Continental Poetry. Representative poems by major 20th century poets of France, Italy, Germany, Spain, Russia, and Greece. Elective Pass/Fail.

426-3 American Poetry to 1900. Trends in American poetry to 1900 with a critical analysis of the achievement of the more important poets. Elective Pass/Fail.

427-3 American Poetry from 1900 to the Present. The more important poets since 1900. Elective Pass/Fail.

436-3 to 9 (3 per topic) Major American Writers. Significant writers of fiction and nonfictional prose from the Puritans to the 20th Century. May be repeated only if topic varies, and with consent of department. Elective Pass/Fail.

438-3 Intellectual Backgrounds of American Literature. The relationship of basic ideas in America to American literature. Elective Pass/Fail.

445-3 Cultural Backgrounds of Western Literature. A study of ancient Greek and Roman literature, Dante's *Divine Comedy*, and Goethe's *Faust*, as to literary type and historical influence on later Western writers. Elective Pass/Fail.

451-3 Eighteenth Century English Fiction. Defoe through Jane Austen. Elective Pass/Fail.

452-3 Nineteenth Century English Fiction. Victorian novel: 1830-1880. Elective Pass/Fail.

453-3 Modern British Fiction. Elective Pass/Fail.

455-3 Modern Continental Fiction. Selected major works of European authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse. Elective Pass/Fail.

458-3 American Fiction to the Twentieth Century. The novel in America from its

beginnings to the early 20th Century. Elective Pass/Fail.

459-3 American Fiction of the 20th Century. Trends and techniques in the American novel and short story since 1914. Elective Pass/Fail.

460-3 Elizabethan and Jacobean Drama. Elizabethan drama excluding Shakespeare: such Elizabethan playwrights as Green, Peele, Kyd, Marlowe, Heywood, Dekker; and Jacobean drama: such Jacobean and Caroline playwrights as Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley. Elective Pass/Fail.

462-3 English Restoration and 18th Century Drama. After 1660, representative types of plays from Dryden to Sheridan. Elective Pass/Fail.

464-3 Modern British Drama. Elective Pass/Fail.

465-3 Modern Continental Drama. The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain, and Portugal. Elective Pass/Fail.

468-3 American Drama. The rise of the theater in America, with readings of plays, chiefly modern. Elective Pass/Fail.

471-3 Shakespeare: The Early Plays, Histories, and Comedies.

472-3 Shakespeare: The Major Tragedies, Dark Comedies, and Romances.

473-3 Milton. A reading of a selection of the minor poems, of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and the major treatises. Elective Pass/Fail.

481-3 Literature for the Adolescent. Criteria for evaluation of literary materials for junior and senior high school, with emphasis on critical approaches in selection of literature. Elective Pass/Fail.

484-3 Non-Print Media and English. Theory and application of film and other non-print media to the study and teaching of English. Especially emphasized is the relationship between print and non-print communications systems and verbal and non-verbal systems. Prerequisite: consent of instructor.

485-3 Problems in Teaching Composition, Language, Literature, and Reading in High School.

491-3 Expository Technical Writing. An all-university course designed to teach advanced academic and professional (non-fictional) writing skills. Prerequisite: GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

492-3 to 9 Creative Writing: Senior Writing Project. The topic varies among the writing of poetry, drama, or prose. A directed written project will be submitted at the end of the semester in prose, poetry, or drama. A collection of short stories or poems, a novel, or play of what instructors consider to be acceptable quality will fulfill the senior project requirement. An alternative may be an internship in a publishing firm if appropriate

arrangements can be made by the department. Prerequisite: consent of instructor. Elective Pass/Fail.

493-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advanced; both students and faculty suggest ideas. May be repeated as the topic varies. Elective Pass/Fail.

494-3 Literary Criticism Applied to Film. The course will deal with the history and theories of literary criticism. Students will have the opportunity to apply concepts of literary criticism to a series of films which they will view. A \$10.00 screening fee is required.

495-3 Literary Criticism. Includes both history of criticism and modern criticism. Open only to seniors and graduate students. Elective Pass/Fail.

496-3 to 6 (3,3) Topics in Women's Literature. (Same as Women's Studies 452.) Syllabus, which may vary with instructor, identifies new areas of research on women authors, and includes an examination of appropriate critical models that have emerged in feminist criticism.

497-3 to 9 (3 per topic) Senior Honors Seminar. Topics vary yearly. May be repeated as the topic varies. Prerequisite: departmental approval and undergraduate status.

499-1 to 6 (1 to 3, 1 to 3) Readings in Literature and Language. For English majors only. Prior written departmental approval required. May be repeated as the topic varies, up to the maximum of six semester hours.

500-3 Introduction to Graduate Study. A survey of approaches to the study of English and American literature and of other subjects germane to the discipline. Includes an introduction to research methods and materials and the writing of criticism. Team-taught by members of the Department of English and other specialists.

506-3 to 12 Anglo-Saxon and Medieval Studies. Seminars on various topics from Old and Middle English literature including the works of Chaucer. May be repeated only with different topics and the consent of the department.

510-3 to 12 Renaissance Studies. Seminars in varying topics concerned with the literature of the 16th and 17th centuries and the drama of Shakespeare. May be repeated only with different topics and the consent of the department.

516-3 to 12 Restoration and 18th Century Studies. Seminars in varying topics concerning the literature of the period. May be repeated only with different topics and the consent of the department.

530-3 to 12 19th Century English Literature. Seminars in various topics concerning the literature of the Romantic and Victorian periods. May be repeated only with different topics and the consent of the department.

533-3 to 12 Early American Literature.

Seminars in varying topics in American literature. May be repeated only with different topics and the consent of the department.

539-3 to 12 Modern American Literature. Seminars in varying topics concerning Modern American literature. May be repeated only with different topics and the consent of the department.

550-3 to 12 Modern British Literature. Seminars in varying topics concerning Modern British literature. May be repeated only with different topics and the consent of the department.

579-3 to 12 (3 per topic) Studies in Modern Literature. May be repeated only if the topic varies, and with consent of department.

581-3 to 9 (3 per topic) Problems in Teaching English. May be repeated only if the topic varies, and with consent of department.

585-3 Teaching College Composition. Required of all graduate assistants without previous college teaching experience. The course deals with methods and materials related to the teaching of basic compositional skills.

593-3 to 12 Special Topics. Seminars in varying topics concerning language and literature. May be repeated only with different topics and the consent of the department.

595-1 to 9 Independent Readings. Preparatory for preliminary examinations for doctoral students in English. May be taken once only, grade of S/U, according to the result of the preliminary examination. Prerequisite: twenty-four classroom credit hours beyond the M.A., exclusive of audits and readings.

596-3 to 12 Language Studies. Seminars in varying topics concerning theories of rhetoric, grammar, and the teaching of prose composition. May be repeated only with different topics and the consent of the department.

600-1 to 36 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Foreign Languages and Literatures

436-3 Methods in Teaching Foreign Languages. Survey of general principles of second-language teaching, based upon insights of modern linguistics and learning-psychology. Followed by intensive practical work in classroom and language laboratory

with teachers experienced in the student's specific language field. Required of prospective teachers of foreign languages in secondary schools. Prerequisite: concurrent or prior enrollment in 300-level course in French, German, Latin, Russian, or Spanish. Elective Pass/Fail.

437-1 to 6 Workshop in High School Foreign Language Instruction. Familiarizes high school teachers with recent curricular developments in foreign language teaching with emphasis on practical classroom application of instructional innovations. Prerequisite: 436 or consent of instructor. Elective Pass/Fail.

475A-12 to 34 Full Year Abroad in Austria. Two semesters at the Pädagogische Akademie at Baden and at various institutions of higher learning in Vienna. All courses are taught in German. Students may obtain 30 to 34 semester hours of credit in German language, literature, and civilization and with prior approval in elective areas of study including music, art, architecture, history, anthropology, political science, physical education, and sociology. Not for graduate credit. Prerequisite: 5 semesters of college German or equivalent with 3.0 grade point average.

506-1 to 4 Research Problems-French. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

507-1 to 4 Research Problems-German. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

508-1 to 4 Research Problems-Russian. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

509-1 to 4 Research Problems-Spanish. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

535-2 Critical Theory. Theories of literature and theories underlying literary criticism, taken logically rather than chronologically. Extensive reading, in the original language whenever possible, of both primary statements and exemplificative documents.

566-2 Bibliography and Research Techniques-French. Bibliography and research methods in the target language and its culture. Introduction to the use of the chief reference works in the humanities and social sciences as they deal with areas in which the target language is spoken.

567-2 Bibliography and Research Techniques-German. Bibliography and research methods in the target language and its culture. Introduction to the use of the chief reference works in the humanities and social sciences as

they deal with areas in which the target language is spoken.

568-2 Bibliography and Research Techniques-Russian. Bibliography and research methods in the target language and its culture. Introduction to the use of the chief reference works in the humanities and social sciences as they deal with areas in which the target language is spoken.

569-3 Bibliography and Research Techniques-Spanish. Bibliography and research methods in the target language and its culture. Introduction to the use of the chief reference works in the humanities and social sciences as they deal with areas in which the target language is spoken.

Chinese

No graduate program in Chinese is offered through the Eastern Languages and Civilization section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

410-3 The Linguistic Structure of Chinese. (Same as Linguistics 411.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or introduction to linguistics. Elective Pass/Fail.

Classics

No graduate program is offered through the classics section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

Courses numbered 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Latin. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

405-2 Greek Literature in Translation. (Same as Women's Studies 451.) Reading and analysis of selected classical Greek author(s), genre(s), theme(s), such as the role of woman, the social life of the ancient Greeks, etc. Students taking the course for graduate credit will do a critical study in one aspect. No

knowledge of Greek or Latin is required. Elective Pass/Fail.

406-2 Latin Literature in Translation. Reading and analysis of selected Roman author(s), genre(s), theme(s). Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required. Elective Pass/Fail.

415-1 to 9 (1 to 3 per topic) Readings from Greek Authors in Greek. Reading and interpretation of works of Greek literature at an advanced level. Prerequisite: two semesters of 300-level Greek or consent of instructor.

416-1 to 9 (1 to 3 per topic) Readings from Latin Authors in Latin. Reading and interpretation of works of Latin literature at an advanced level. Prerequisite: two semesters of 300-level Latin or consent of instructor.

441-3 Themes in Greek Tragedies and the New Testament. (Same as Religious Studies 441.) Greek tragedies and New Testament passages from the Synoptic Gospels and the Letters of Paul showing similarities and differences in their treatment of such themes as freedom, law, love, and justice. Not for graduate credit. No knowledge of Greek or Latin is required. Prerequisite: 270, 332 or 405 or GSC 330, or 231 and GSC 217 or consent of instructor. Elective Pass/Fail.

488-6 (3, 3) Latin as a Research Tool. Intensive course designed to impart grammar and vocabulary necessary for a reading knowledge of the language. Also to serve as a review for people who have had some Latin. Development of interpretive and translation skills in student's own discipline. With consent of student's department, 488b satisfies the graduate school requirement for foreign language as a research tool. Open to graduates and undergraduates.

496-2 to 8 (2 to 4, 2 to 4) Independent Study in Classics Program. (Same as Anthropology 376, History 396, Philosophy 496, Religious Studies 496.) Normally taken in course of junior and senior years to a total of at least four hours under a professor participating in classics program (anthropology, classics, history, philosophy, or religious studies). At end of advanced level work, student will submit a research paper. Not for graduate credit. No knowledge of Greek or Latin is required. Prerequisite: consent of instructor and classics section head. Elective Pass/Fail.

French

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in French. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate

credit for courses numbered below 400.

388-3 French as a Research Tool. Intensive study of French as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

410-3 Individualized Language Study. Treatment of problems concerning grammar, idioms, vocabulary, and other language skills in units tailored to the particular needs of the individual advanced level students enrolled in the course. Exercises in writing, understanding, and speaking will be offered with emphasis placed on the active use of the language which the student may need in present or future activities or careers. Elective Pass/Fail.

411-3 Contrastive Analysis: French and English. Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: 320 and 321 or equivalent. Elective Pass/Fail.

412-3 History of the French Language. A survey of the phonological and morphological changes from Latin through Vulgar Latin and Old French to Modern French; study of an original Old French text, such as the *Chanson de Roland* or a romance of Chretien de Troyes. Knowledge of Latin not required. Elective Pass/Fail.

415-3 Literary Stylistics. A study of the aesthetics and theory of French literary expression. Disciplined stylistic analyses of excerpts from representative works of great French authors. Appreciation of distinctive qualities of each writer's genius. Consideration is given to various stylistic methods. Elective Pass/Fail.

419-3 Romance Philology. (Same as Spanish 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax. Elective Pass/Fail.

420-3 Medieval and Renaissance Literature. Study of the origins of French literature emphasizing the *Chanson de Roland*, *Tristan*, other courtly romances, and the lyric poetry of Villon, culminating with an examination of the development of the humanistic ideas and ideals of the French Renaissance. Elective Pass/Fail.

430-4 Baroque and Classicism. An in-depth examination of artistic and social writings of baroque and classical literary figures such as Corneille, Racine, Moliere, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussion, reports, papers. Elective Pass/Fail.

435-3 Business French. An overview of the French economy through readings in French newspapers and magazines. Grammar review and study of business vocabulary and practices through translation, oral presentations, and commercial correspondence. Prerequisite: 320 or equivalent.

440-3 Literature of the Enlightenment. Study and discussion of the novel, theater, and philosophic writings of 18th century France as literature and as expressions of the Enlightenment. Major attention given to Montesquieu, Voltaire, Diderot, and Rousseau. Elective Pass/Fail.

450-4 Literary Movements of the 19th Century. Romanticism, Realism, and Naturalism in the novel and theater followed by an examination of the reaction to these movements and of the influence of symbolism. Elective Pass/Fail.

460-4 Studies in Literature of the 20th Century. Examination of the major themes, forms, techniques, and style of novelists from Gide and Proust to Robbe-Grillet and dramatists from Giraudoux to Ionesco and Beckett. Elective Pass/Fail.

470-3 Backgrounds of French Civilization. A study of the events, figures, and movements in France which have influenced its culture and civilization. Elective Pass/Fail.

475-3 to 6 Travel-Study in France. Travel-study project, planned under supervision of French faculty and carried out in France. Amount of credit depending on scope of study. Prerequisite: 320 or equivalent. Elective Pass/Fail.

476-3 to 6 (3, 3) French Civilization Outside of France. Encompasses a number of individual courses, each of which focuses on one of the many areas of the world in which France has played a significant role. Manifestations of French culture and civilization, past and present, are studied and evaluated within the framework of an evolving local and global historic context.

488-3 Advanced French as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A satisfies Graduate School requirement for foreign languages as research tool. Prerequisite: 388 or one year of French, or equivalent.

490-1 to 6 Advanced Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language or culture. Prerequisite: 320, 321 and consent of instructor.

501-2 to 6 Studies on a Selected Topic or Author. Intensive study of one author or topic.

510-3 Masterpieces of French Literature. Appreciation and analysis of selected masterpieces in French literature with special attention given to required authors and works from the Master of Arts reading list.

520-1 to 3 Literature of the Middle Ages. A study of selected authors, literary movements, and expressions of the political realities

and the philosophical currents of the Middle Ages.

525-3 Advanced Language Skills. Consideration of levels of linguistic expression in contemporary French through the study of theoretical works and representative texts. Practice in composition and translation.

530-1 to 3 Literature of the Renaissance. A study of selected authors, literary movements, and expressions of philosophical thoughts of the Renaissance.

536-1 Teaching French at the College Level. Prepares graduate students in French for teaching at the college level. Required of all teaching assistants in French. May not be counted to satisfy secondary certification requirements.

539-1 to 3 Literature of the 17th Century. Collaborative research in selected works of neo-classical French authors. Lectures, reports, discussions, paper.

540-1 to 3 Literature of the 18th Century. Selected topics, movements, or authors in the literature of the 18th Century.

550-1 to 3 Literature of the 19th Century. Selected topics, movements, or authors in the literature of the 19th Century.

560-1 to 3 Literature of the 20th Century. Study of an author, theme, movement, or critical literary issue of contemporary interest. Topics may range from the Existentialist vision or the Quest for Self to the novel of commitment of the New Novel.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

German

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in German. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 German as a Research Tool. Intensive study of German as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with the course instructor.

401-3 Early German Literature. Survey of medieval culture and literature. Reading of selections and discussion of major works of the Middle Ages in their esthetic and historical contexts. Conducted in German. Offered in alternate years only. Prerequisite: 330 or 380. Elective Pass/Fail.

412-3 Linguistic Structure of Modern German. The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English. Elective Pass/Fail.

413-3 History of the German Language. Development of German from its Indo-European origin to the present in political and cultural context. The main linguistic aspects dealt with are lexical and semantic changes. Appropriate for students with at least two years of German. Conducted in English. Elective Pass/Fail.

416-3 Individualized Language Study. Designed to improve language skills beyond the level of 320. Treatment of problems concerning grammar, idioms, vocabulary, and other language skills tailored to the particular needs of advanced students. Emphasis is placed on the active use of the language which the student may need in present or future activities or careers. Prerequisite: 320b or equivalent. Elective Pass/Fail.

445-3 Age of Goethe. Intensive and extensive study of the authors, works, and movements of the period spanned by Goethe's life (1749-1832). Lectures, reports. Conducted in German. Prerequisite: 330 or consent of instructor. Elective Pass/Fail.

460-3 East and West of the Wall. Literature of the two Germanies. Course will trace the beginnings and the establishment of the two German literatures after World War II. Conducted in German. Prerequisite: 330 or 380. Elective Pass/Fail.

465-3 German Theater Today. Plays performed in German-speaking countries at the present. The role of the theater in German culture. Conducted in German. Prerequisite: 330 or equivalent. Elective Pass/Fail.

485-2 German Lyric Poetry. Development of German lyric poetry from Klopstock and Burger to the present. Conducted in German. Prerequisite: 330 or equivalent. Elective Pass/Fail.

488-3 Advanced German as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department and with a grade of B or A satisfies Graduate School requirement for foreign lan-

guages as research tool. Prerequisite: 388 or one year of German, or equivalent.

490-1 to 6 (1 to 3, 1 to 3) Independent Study in German. Project-study under supervision of German faculty. Amount of credit depends on scope of study. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: senior or graduate standing and approval of supervising instructor.

493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Primarily for undergraduates. Prerequisite: consent of instructor. Elective Pass/Fail.

501-2 to 4 (2, 2) Seminar in Literature, Culture, or Folklore. Intensive study of a selected topic in German literature, culture, or folklore. Revolving subject matter; may be repeated once, for a total of four semester hours.

502-2 to 4 (2, 2) Seminar in Germanic Linguistics. Intensive study of a selected topic in historical or descriptive Germanic linguistics. Revolving subject matter; may be repeated once, for a total of four semester hours. Prerequisite: 413 or consent of instructor.

510-3 Middle High German. Grammar of Middle High German, relation of Middle High German to modern German, and selected readings (in original) from the *Nibelungenlied*, courtly epic and lyric poetry, and didactic prose.

512-2 Historical Germanic Dialects. Gothic or Old High German; grammar, etymology, introduction to methods of historical linguistics, and careful reading of representative texts. Prerequisite: 413 or consent of instructor.

536-1 Teaching German at the College Level.

560-3 German Literature at the Turn of the 20th Century. The convergence and revival of different literary movements and traditions during the heyday of German Imperialism. Taught in German.

561-3 Modern German Novel. German novel in the 19th and 20th centuries. Conducted in German.

586-3 Das Komische. *Das Komische* in different periods of German literature and culture. Conducted in German.

590-3 to 9 (3 per topic) Independent Study on Special Topics in Literature and Language. May be repeated only if the topic varies, and with consent of department.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours,

before being eligible to register for this course. Graded *S/U* or *DEF* only.

Greek

No graduate program in Greek is offered. See classics for selected graduate courses in Greek.

Japanese

No graduate program in Japanese is offered through the Eastern Languages and Civilization section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

410-3 The Linguistic Structure of Japanese. (Same as Linguistics 412.) Phonology and syntax of the Standard Japanese. Special emphasis on the contrastive analysis between Japanese and English. Typological similarities and lexical borrowings between Chinese and Japanese. Prerequisite: one year of Japanese or introduction to linguistics. Elective Pass/Fail.

Latin

No graduate program in Latin is offered. See classics for selected graduate courses in Latin.

Russian

No graduate program is offered through the Russian section. (See Chapter 2 for Russian as a teaching specialty for the Master of Science in Education degree in secondary education or in higher education.) Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

Courses numbered 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Russian. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

411-3 Russian Stylistics. Writing style in Russian and its application to the development of skill in written expression. Elective Pass/Fail.

415-3 Russian Linguistic Structure. Structural analysis of present-day Russian with special attention to morphology and syntax. Elective Pass/Fail.

430-4 Business Russian. A study of the style of commercial language and its application to the development of skill in business correspondence, such as: inquiries, offers, orders, contracts, agreements, as well as documents concerning transport, insurance, and customs. Prerequisite: 201 or equivalent. Elective Pass/Fail.

465-3 Soviet Russian Literature. Major fiction writers and literary trends since 1917. Lectures, readings, and reports. Elective Pass/Fail.

470-3 Soviet Civilization. Soviet culture and civilization is studied primarily through literary works, journalistic materials, and excerpts from non-literary works as general background reading. Lectures are illustrated with maps, slides, films, and art works. Taught in English. Readings are in English and in bilingual edition. No prerequisite. May count toward Russian major with consent of graduate adviser. Elective Pass/Fail.

475-2 to 3 Travel-Study in USSR. Specialized course comprising part of the travel-study program in the Union of Soviet Socialist Republics. Prerequisite: 201 or equivalent. Elective Pass/Fail.

480-4 Russian Realism. Authors in 19th century Russian literature. Special attention to stylistic devices. Lectures, readings, and individual class reports. Elective Pass/Fail.

485-3 Russian Poetry. A study of literary trends and representative works of Russian poets. Elective Pass/Fail.

488-6 (3, 3) Russian as a Research Tool. Reading of Russian articles with emphasis on grammar as a tool for reading comprehension; development of reading skills in various fields: humanities, social studies, science; development of interpretive and translation skills in student's own discipline. With consent of student's department, 488b satisfies the graduate school requirement for foreign language as a research tool. Students who have had one year of college Russian or the equivalent would normally enroll in 488b. This course is intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with the instructor of the course.

490-1 to 3 Independent Study. Directed independent study in a selected area. Prerequisite: consent of the Russian section head. Elective Pass/Fail.

501-2 Seminar on a Selected Russian Author. Intensive study of one author, including the author's life, work, and place in the literary and cultural development of civilization.

502-2 Seminar in Contemporary Russian Literature. Intensive study of the works of representative Russian authors, with special reference to the correlation existing between literary expression and social, economic, and

political conditions since the Revolution. Lectures, outside readings, reports are required.

514-3 History of the Russian Language. A survey of the phonological, morphological, and syntactical changes from the period of the common Slavic to the present Russian literary language.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Spanish

Courses numbered 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Spanish. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

412-3 Advanced Grammar and Composition. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. Prerequisite: 320. Elective Pass/Fail.

415-3 The Linguistic Structure of Spanish. Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching. Elective Pass/Fail.

417-3 History of the Spanish Language. Survey of internal and external history, from Vulgar Latin to Modern Spanish. Elective Pass/Fail.

419-3 Romance Philology. (Same as French 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax. Elective Pass/Fail.

425-3 Spanish Literature before 1700. The literature of Spain from its beginnings in the Middle Ages through the Golden Age. Elective Pass/Fail.

430-3 The Golden Age: Drama. Plays of Lope de Vega, Calderon, Tirso de Molina, and others. Elective Pass/Fail.

431-3 Cervantes. *Don Quixote*. Elective Pass/Fail.

434-3 Colonial Literature in Spanish America. Study of the literature of Spanish America before 1825. Elective Pass/Fail.

435-3 Applied Written Spanish. Business Spanish: discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and documents dealing with trade, transportation, payment, banking, and advertising. Prerequisite: 320. Elective Pass/Fail.

460-3 Spanish Literature of the 20th Century. The main currents and outstanding works in the literature of Spain since 1900. Elective Pass/Fail.

463-3 Chicano Literature. An introduction to the literature written in the United States by Chicanos and other Hispanics.

485-3 The Spanish American Short Story. Survey of the genre in Spanish America. Elective Pass/Fail.

486-3 Spanish American Drama. A survey of the development of the genre from the earliest times to the present. Elective Pass/Fail.

487-3 Spanish American Novel. Survey of the genre in Spanish America. Elective Pass/Fail.

488-6 (3,3) Spanish as a Research Tool. (a) Basic grammatical structure and vocabulary necessary to a reading knowledge of the language; (b) finalizes translation skills in the student's discipline. With consent of student's department, 488b satisfies the graduate school requirement for foreign language as a research tool. Students who have had one year of college Spanish or the equivalent would normally enroll in 488b. This course is intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with the instructor of the course.

490-1 to 3 Advanced Independent Study. Individual exploration of some topic in Hispanic literature, language, or culture. Prior consent of instructor required.

502-3 to 6 (3, 3) Seminar in Hispanic Linguistics. Involves intensive study of a selected topic.

503-3 to 6 (3, 3) Seminar in Peninsular Spanish Literature. Intensive study of a selected topic.

504-3 to 6 (3, 3) Seminar in Spanish-American Literature. Intensive study of a selected topic.

521-3 Medieval Spanish Literature. Studies in epic and didactic literature, and lyric poetry.

530-2 to 4 (2, 2) Spanish Literature of the Renaissance and Golden Age. Intensive study of literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

535-2 to 4 (2, 2) Spanish American Literature before 1900. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

540-2 to 4 (2, 2) Spanish Literature of the 18th and 19th Centuries. Intensive study of a literary movement, trend, genre, or author of

the period, as specified by the topic to be announced for each semester.

560-2 to 4 (2, 2) Spanish Literature of the 20th Century. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

565-3 to 6 (3, 3) Spanish American Literature of the 20th Century. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Forestry

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

401-3 Fundamentals of Environmental Education. A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation or education, or consent of instructor.

402-3 Wildland Hydrology. Fundamentals of hydrology as related to forest and wildland water resources will be emphasized. Considerations will include the hydrologic cycle with emphasis on soil and groundwater regimes, evapotranspiration, surface and subsurface runoff, and the quantity and timing of water yield. Prerequisite: Mathematics 140.

405-2 Forest Management for Wildlife. Interrelations between forest practices and wildlife populations. Emphasis is on habitat requirements of different wildlife species and ways to manipulate the forest to improve wildlife habitats. Prerequisite: forestry major, or consent of instructor.

408-4 Introduction to Remote Sensing. The course is an introduction to the theoretical and practical considerations of remote sensing for an interdisciplinary audience. Coverage will stress background information about the electromagnetic spectrum, reflectance characteristics of various objects, sensors, filters, platforms, and energy flow between object and sensor. Prerequisite: advanced standing or graduate status.

409-4 Forest Resources Decision-Making. Examines management planning decision-making for multiple-use forests, particularly in the public sector. Reviews concepts useful for analyzing flow-resource problems, emphasizing systems approaches, introduces use of modern quantitative methods to evaluate resource use alternatives. Case studies. Prerequisite: 411, Mathematics 140.

410-3 Forest Resources Administration and Policy. Nature of administrative organizations and influences on behavior of organization members. Society influences causing changes in forestry related organizations. Policy formation and implementation, including roles of special interest groups. Prerequisite: 301.

411-3 Forest Resources Economics. Introduction to forest economics: Application of micro- and macro-economics principles to forest timber and non-timber production; capital theory; benefit-cost analysis; and economics of conservation. Prerequisite: Agricultural Industries 204 and Mathematics 140.

412-2 Tree Improvement. Basic theories and techniques of obtaining genetically superior trees for forest regeneration. Prerequisite: senior standing.

414-3 Information Management. The collection of physical, biological, and social variables in the field of forestry through sampling survey. The procedures of data manipulation and calculation and the presentation of graphs and tables.

416-3 Forest Resource Management. The application of business procedures and technical forestry principles to manage forest properties. Emphasis on integrated resource management for tangible and intangible benefits. Field trips and supplemental purchases approximately \$25 per student. Prerequisite: summer camp or consent of instructor.

417-2 Forest Land-Use Planning. Principles of location theory as a basis for determining land use; supply of forest land; population pressure and demand; conservation principles; determination of forest land values; institutional factors influencing forest land-use; forest taxation; special taxes, and capital gains. Taught in alternate years. Prerequisite: 411 or consent of instructor.

418-2 Marketing of Forest Products. The role of marketing in the forest industries; review of economic principles; product policy, planning the product line, pricing, marketing channels, marketing problems, marketing organization, and marketing research as influences on the marketing of lumber, wood products, pulp, and paper. Taught in alternate years. Prerequisite: 411 or consent of instructor.

420-3 Park and Wildlands Management. The management of state and federal parks and recreation areas. A systems approach toward management and decision-making will be emphasized. Requires supplemental purchases of approximately \$5 per student. Prerequisite: 320C or 422T.

421-3 Recreation Land-Use Planning. Principles and methods for land-use planning of park and recreation environments with emphasis on large regional parks. Focus on planning process and types of information to gather and organize. Application in group field projects. Prerequisite: 320, 420, or consent of instructor.

422C-4 Park and Wildlands Management Camp. A study of park conditions, visitors, and management practices at selected county, state, and federal park systems in the United States, including the federal wilderness preservation system. Course requires a field trip and supplemental purchases. Prerequisite: 320 and 320C and consent of instructor.

423-3 Environmental Interpretation. Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

429-4 Wildland Watershed Analyses. A lecture/laboratory course designed to provide a practical knowledge of the equipment, procedures, and tests used in determining the quality and quantity of waters flowing within and out of wildlands. Prerequisite: Chemistry 140a.

430-3 Wildland Watershed Management. Emphasis is placed upon the principles, technical problems, procedures, alternatives, and consequences encountered in managing wildland watersheds for the production of quality water in harmony with other uses. Prerequisite: 331, 402.

431-3 Regional Silviculture. Designed to evaluate the various silviculture practices as they are commonly employed in various regions of the United States. Offered alternate years. Prerequisite: 310C.

451-2 Natural Resources Inventory. Theory and practical problems in biometrics to obtain estimates of natural resource populations. Use of computers and other advanced techniques. Case studies of inventory procedures. Field trip cost—maximum \$20. Prerequisite: 300 or consent of instructor.

452-2 Forest Soils. Characterization and fundamental concepts of forest soils and their relationship to forest communities and forest management practices. Emphasis is on the origin of forest soil material, soil forming processes, and the chemical, physical, and biological properties of soils as related to forests and forest management. Prerequisite: 240 or Plant and Soil Science 240 and concurrent enrollment in Forestry 452L.

452L-2 Forest Soils Laboratory. Companion laboratory for 452. Emphasis is on methods to characterize and evaluate the chemical, physical, and biological properties of forest soils. Prerequisite: 240 or Plant and Soil Science 240 and concurrent registration in Forestry 452.

453-2 Environmental Impact Assessment in Forestry. Methods of assessing the environmental impact of land-use systems on

forest resources and assessing the impact of forest management systems of environmental quality are presented. Case studies culminating in the preparation of environmental impact statements are emphasized. Field trip cost, \$20. Prerequisite: senior standing in a natural resource major.

454-2 to 8 Forest Ecology Field Studies. A study of forest communities, soils, and site conditions in one of the following ecosystems: (a) Boreal; (b) lake states; (c) southern Appalachians; (d) southern pine. Course requires a field trip of about 10 days. Each trip is two semester credits; a maximum of 6 credits may be applied toward graduate credit. Estimated cost \$125 per trip. Prerequisite: senior standing in natural resources or biological sciences, courses in tree identification, forest ecology, and soils, and consent of instructor.

460-2 Forest Industries. Analysis of raw material requirements, the processes and the products of forest industries. The environmental impact of each forest industry discussed.

470-2 Wilderness Management, Policy, and Ethics. Study of current management philosophy and practice in America's wilderness. Analysis of current wilderness policy and its historical evolution. Discussion of the evolution of the wilderness idea and the individuals that have influenced it. Weekend field trip required. Prerequisite: 320 or consent of instructor.

492-1 to 4 Special Studies for Honor Students. Research and individual problems in forestry. Prerequisite: consent of chairperson and 3.0 minimum grade point average.

494-1 to 6 Practicum. Supervised practicum experience in a professional setting. Emphasis on administration, supervision, teaching and program leadership in community, school, park, forest, institution, and public or private agencies. Students should enroll according to their curriculum specialization: (a) Forest environmental assessment, (b) outdoor recreation resource management, (c) forest resources management. Prerequisite: consent of instructor.

500-2 Principles of Research. Research philosophy, approaches to research; theory, hypotheses inference, and predicting; problem identification, project development and organization; methods of data collection, analysis, and presentation; drawing conclusions and organizing results. Prerequisite: four hours in statistical methods or consent of instructor.

501-1 Graduate Seminar. Presentation and critiques of current research project of faculty, graduate student, and selected resource persons.

511-2 Advanced Forest Resources Economics. Application of microeconomic, macroeconomic, and capital theory to forest resource problems; introductory econometric methods; long range supply and demand projections; international forest economics and policy problems decision theory in forest resource management. Offered alternate years. Pre-

requisite: 411 or equivalent or consent of instructor.

512-2 Tree Selection and Breeding. Quantitative methods of describing variation patterns of trees, testing genetic and environmental effects and interactions, and evaluations of tree improvement program. Prerequisite: 412 or consent of instructor.

516-2 Advanced Forest Management. Case studies in forest land management, management planning, utilizing computer programming, CFI and TSI role in long range management planning. Offered alternate years—odd. Prerequisite: 416, 331, and summer camp or consent of instructor.

520-2 Advanced Park Planning. Study of nature and functions of the recreation environmental planning process in theoretical and policy terms. Types of plans at local, regional, and state levels. Evaluation of different types of planning approaches and their utility in particular situations. Offered alternate years. Prerequisite: 421 or consent of instructor.

521-2 Recreation Behavior in Wildlands Environments. Review of sociological and psychological theories relevant to outdoor recreation planning; management alternatives. Review of current behavior research in outdoor recreation. Application of behavioral concepts to recreation planning and administration. Offered alternate years.

530-2 Forest Site Evaluation. A discussion of the factors affecting site quality and their use in present site evaluation methods. Lectures will draw upon recently published scientific literature as well as forest research data collected and analyzed for southern Illinois forests. Laboratories will include sampling of forest sites and stands with subsequent analysis of data using graphic and statistical techniques and a computer to develop site evaluation models. Cost \$20. Prerequisite: 300, Biology 307 or consent of instructor.

531-2 Biological Productivity of Forests. The production and accumulation of organic matter in forest ecosystems is analyzed in relation to vegetational composition and structure, biogeochemical cycles, and environmental factors. Methods of quantifying productivity are emphasized during laboratory period. Cost: approximately \$15. Offered alternate years. Prerequisite: 331 or equivalent.

588-1 to 6 International Graduate Studies. University residential graduate program abroad. Prior approval by the department is required both for the nature of program and the number of hours of credit.

590-1 to 4 Readings in Forest Resources. Intensive consideration is given to current practices and problems in forestry. Prerequisite: consent of instructor.

593-1 to 4 Individual Research. Directed research in selected fields of forestry.

599-1 to 6 Thesis. Minimum of five hours to be counted toward a master's degree.

601-1 to 12 per semester Continuing Research. For those graduate students who

have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Geography

404-3 Spatial Analysis. The purpose of this course is to equip the student with a series of perspectives and tools with which to view spatial phenomena. Emphasis is placed on methodological approaches to the analysis of areal distributions and phenomena. Longitudinal analysis of data is included. Prerequisite: 300. Geography 410 is advisable or consent of instructor. Elective Pass/Fail.

406-2 Advanced Social Geography. Deals with one or more of the following: population, settlement, ethnic characteristics, political factors; depending on, and varying with interests of the instructors. Thus, a student may register more than one time. Emphasis will be directed at familiarizing the student with techniques of analysis and at developing concepts and principles that underlie understanding of the phenomena and their geographic significance. Prerequisite: 306 or consent. Elective Pass/Fail.

410-4 Techniques in Geography. Geographic applications of basic and advanced statistical and mathematical techniques, including basic descriptive statistics, hypothesis testing, regression and correlation, analysis of variance, and nonparametric statistics. Special emphasis on areal measures: nearest neighbor analysis, cluster analysis, etc. Prerequisite: 300 or consent. Elective Pass/Fail.

416-4 Specialized and Computer Mapping. Introduction to computer mapping, mapping from air photos, specialized cartographic problems based on individual student interests. Laboratory. Charges not to exceed \$2 for supplies. Prerequisite: 310 or consent. Elective Pass/Fail.

418-3 Management of Spatial Data Bases. This course will teach students to use specialized computer programs for the collection, storage, analysis, and mapping of spatial data. A simplified methodology makes the techniques available to students with no previous computer experience. Elective Pass/Fail.

421-2 Urban Geography. Examination of extracity relationships—theory and structure; intra-city relationships—theory and structure; and selected urban problems. Offered once annually. Prerequisite: 300 or consent. Elective Pass/Fail.

422-4 Economics in Geography and Planning. (Same as Economics 425.) Concepts, symbols, language, theory, elementary mathematics of economics and geography. Individual's preferences, production functions, the

firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: 300 or consent of instructor. Elective Pass/Fail.

424-4 Natural Resources Planning. Literature in resource management problems. Emphasis on theory, methods of measurement, and evaluation concerning implications of public policy. The role of resources in economic development and regional planning, water and related land resource problems, and environmental quality from a multidisciplinary perspective. Prerequisite: 304 or consent. Elective Pass/Fail.

425-4 Water Resource Planning Simulation. A review of water resource planning theory and practice from a physical, technological, economic, social, and geographical viewpoint. Students design a comprehensive water resource plan including flood control, water supply, water quality, and recreation for a city of 170,000 population. This plan is "played" against a 50-year trace of hydrologic parameters in a computer simulation. Prerequisite: 424 or consent. Elective Pass/Fail.

426-4 Administration of Environmental Quality and Natural Resources. (Cross-listed with Political Science 445). An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government—federal, state, and local—as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Elective Pass/Fail.

427-3 Environmental Perception and Planning. Deals with a description and assessment of the relevance of normative and descriptive theories of decision-making and theories of choice for public policy and environmental management. Studies of the perception of urban environments and other landscapes such as wilderness areas, and perception of and human response toward natural hazards will be considered. Prerequisite: 300 or consent. Elective Pass/Fail.

430-3 Theory of Environment. Exploration of the hypothesis that the physical environment works on local hydrology, soils, and natural vegetation, agriculture, and landforms, through energy and moisture exchanges. Emphasis on model building for comparison of subsystems, to rate effectiveness of contrasting environments, and to project these consequences to environmental management questions. Prerequisite: 302 or consent. Elective Pass/Fail.

431-2 Medical Geography. Deals with the distribution of disease and attempts to use the operational concepts of human ecology as a point of departure. A brief historical outline

and an introduction to public health, epidemiology, and related fields is provided. Problems of communicable and chronic diseases, nutritional deficiency, geochemical relations, biometeorology and medical climatology, environmental pollution, and seasonal disease calendars are emphasized. Taught by Department of Geography staff. Prerequisite: 300 or consent. Elective Pass/Fail.

432-4 Physical Environment of Cities. Energy and moisture budget concepts are developed from basic principles. Microclimatic data, instrumentation and applications stress urban examples. Models of climatic effects and modeling of people's effects concern city climates mainly. Charges not to exceed \$5 for field trips. Prerequisite: 302 or 430 or consent. Elective Pass/Fail.

433-3 Advanced Physical Geography. Topics may include landforms, climate, soil, or water. Varies with the interest of the instructor. Prerequisite: 302 or consent. Elective Pass/Fail.

434-4 Water Resources Hydrology. Microclimatic factors which affect the hydrologic events of various climatic regions are treated extensively. Methods of estimating geographic variations in hydrologic relations to climatic and microclimate especially evapotranspiration, are compared and evaluated. Consequences of alternative land uses on climate and hydrology are considered regionally. Charges not to exceed \$10 for field trips. Prerequisite: 302 or 430 or consent. Elective Pass/Fail.

435-3 Solar and Alternate Energy Planning. Regional and national strategies for energy supply and demand are reviewed followed by a study of current energy resources, reservoirs, and the range of demands and environmental impacts. Community and national planning strategies for increasing the use of solar and alternate energies are explored, simulated by analog computer, and assessed for present and future implementation probability. Field trip expenses not to exceed \$10. Prerequisite: 300. Elective Pass/Fail.

438-3 Applied Meteorology. Analysis of meteorological patterns approached through study of several case histories. Evaluation of meteorological data air mass and frontal analysis, development of weather forecasts, study of meteorological instruments, clouds, and precipitation patterns. Charges not to exceed \$5 for field trips, \$5 for supplies. Prerequisite: GSA 330 or consent of instructor. Elective Pass/Fail.

439-3 Climatic Change-Inevitable and Inadvertent. The geologic time-scale perspective of major natural events that have affected the theoretical steady-state climate, and factors in contemporary societal practices that have brought about inadvertent climatic modification. An assessment of the means and extremes of parameter values in the geologic time-scale perspective studied will be compared with the documented and present-day climatic parameter means and extremes. Approaches to prognoses for the Earth's future

climatic state will be made. Charges not to exceed \$10 for field trips. Elective Pass/Fail.

440-2 Tutorial in Geography. Prerequisite: geography major, senior standing.

443-3 Teaching of Geography. Presentation and evaluation of methods of teaching geography. Emphasis upon geographic literature, illustrative materials, and teaching devices suitable to particular age levels. Charges not to exceed \$3 for field trips. Prerequisite: 300. Elective Pass/Fail.

470-6 to 9 (3, 1 or 2, 2 to 4) Urban Planning. (Same as Political Science 447). (a) Planning concepts and methods. Charges not to exceed \$8 for field trips. (b) Field problems. (c) Planning and public administration internship (for undergraduate credit only). Prerequisite: consent of department. Elective Pass/Fail.

471-3 Regional Planning. A study of the viewpoints, methodology, and experiences of various types of regional planning in the United States; some attention given to state and national scale planning. Prerequisite: 300 or consent. Elective Pass/Fail.

487-6 (1, 2, 3) Honors in Geography. (a) Honors tutorial; (b) honors reading; (c) honors supervised research. Must be spread over the last two years of the undergraduate's career. May be taken in either a, b, c or b, a, c sequence. Prerequisite: consent of department. Elective Pass/Fail.

490-2 to 4 Readings in Geography. Supervised readings in selected subjects. Prerequisite: geography major, advanced standing. Elective Pass/Fail.

500-4 Principles of Research. Meaning, philosophy, science, reasoning, creative endeavor, problem identification in research, research methodology, preparation of project statements, analysis, and results in multidisciplinary approach with appropriate faculty participation. Prerequisite: graduate admission.

510-4 Multivariate Techniques in Geography. Introduction to matrices, vectors and linear equations; multiple regression and correlation, cononical correlation, multivariate analysis of variance and covariance, analysis of variance in two- and three-way designs, multiple discriminant analysis, classification procedures, introduction to elementary factors analysis. Examples and demonstrations of each method; basic introduction to computer applications of multivariate analyses. Prerequisite: 410 or consent of instructor.

511-2 Philosophy of Geography. The nature of geography. Current trends in the field, present day geographers, and schools of thought. Geography's place among the disciplines. Prerequisite: graduate standing.

514-2 College Teaching of Geography. Prerequisite: graduate standing.

520-2 to 4 Seminar in Physical Systems Evaluation. Prerequisite: graduate standing.

521-2 to 4 Seminar in Resource Planning. Prerequisite: graduate standing.

522-4 Seminar in Economics in Geog-

raphy and Planning II. (Same as Economics 525.) Public expenditure criteria based on free-market allocation, public, private, and merit goods and services, and related planning; expenditure criteria based on comprehensive plans; expenditure criteria and planning in the absence of general optimality; multiple objectives, measurement of benefits and costs, shadow prices, choice of techniques in planning; consideration of uncertainty. Critical evaluations of applied work and models of development projects, and programs, by students. Prerequisite: 422 or consent of the instructor.

524-2 to 4 Seminar in Social Geography. Prerequisite: graduate standing.

527-2 to 4 Seminar in Urban and Regional Planning. Prerequisite: graduate standing.

570-2 to 4 Planning Internship. Planning internship with city or regional planning agency or private planning firm. Prerequisite: 470a or consent of department.

591-2 to 4 Independent Studies in Geography. Prerequisite: graduate standing.

593A-2 to 24 (2 to 6 per semester) Research in Physical Geography. Prerequisite: 520.

593B-2 to 24 (2 to 6 per semester) Research in Economic Geography. Prerequisite: 521.

593C-2 to 24 (2 to 6 per semester) Research in Urban and Regional Planning. Prerequisite: graduate standing.

593D-2 to 24 (2 to 6 per semester) Research in Social Geography. Prerequisite: 524.

596-2 to 4 Field Course. Prerequisite: graduate standing.

599-2 to 6 Thesis. Prerequisite: graduate standing.

600-1 to 32 (1 to 16 per semester) Dissertation. Prerequisite: graduate standing.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Geology

Courses with a laboratory may require purchase of a laboratory manual and a supply fee. All courses requiring field trips may have a field trip fee of \$2 to \$7.

400-2 Earth Science Seminar. Designed to integrate the basic concepts of earth science gained through courses taken in several

departments. Focus on one or more local problems such as development and management of Cedar Creek Reservoir. Prerequisite: GSA 110, upper class standing or consent of department. Elective Pass/Fail.

413-3 Quantitative Methods in Geology. An introduction to quantitative methods in a geological and earth sciences context. Topics introduced include sampling plans for geological studies, non-parametric tests of geological data, comparisons of geological samples, analysis of sequential geological data. Laboratories will deal with numerical examples from all areas of geology. Prerequisite: advanced standing and consent of instructor. Elective Pass/Fail.

414-1 to 2 Paleobotany. (See Botany 414.) Elective Pass/Fail.

415-3 Optical Mineralogy. The optical properties of minerals and the use of the petrographic microscope for identification of crystals by the immersion method and by thin section. Lecture, laboratory. Prerequisite: 310, Physics 203b, 204b, or 205b. Elective Pass/Fail.

416-3 X-ray Crystallography. (Same as Chemistry 416.) Introduction to the study, measurement, and identification of unknown crystalline materials by X-ray diffraction techniques (especially the Debye-Scherrer methods). Upon request, non-geology majors may work with unknowns from their own fields of study. Prerequisite: 310, Mathematics 150 or consent. Elective Pass/Fail.

417-3 Isotope Geochemistry. Stable and radioactive isotopes and the applications of isotopic studies to igneous and metamorphic petrology, ore deposits, sedimentology, surface processes, geothermometry and geochronology. Introduction to isotopic techniques and mass spectroscopy. Laboratory or research project required. Prerequisite: 310, 315 and 325 or consent. Recommended: Physics 203, Mathematics 150 and Geology 419.

418-3 Low Temperature Geochemistry. The application of chemical principles to geologic processes that occur on and near the earth's surface. Lecture, laboratory. Prerequisite: 310, Chemistry 222 or equivalent. Elective Pass/Fail.

419-4 Ore Deposits. The geological and other factors that govern the exploration for and occurrence of metalliferous mineral deposits. Study of the geological settings of the major types of ore deposits. Lecture, laboratories, and field trips. Prerequisite: 302, 315. Elective Pass/Fail.

420-3 Petroleum Geology. The geological occurrence of petroleum including origin, migration, and accumulation; a survey of exploration methods, and production problems and techniques. Laboratory study applies geological knowledge to the search for and production of petroleum and natural gas. Prerequisite: 221, 302. Elective Pass/Fail.

425-4 Invertebrate Paleontology. Principles of paleontology and a survey of the important invertebrate phyla and their fossil representatives. Laboratory. Field trips re-

quired. Prerequisite: 221, a biology course. Elective Pass/Fail.

428-3 Paleoecology and Environments of Deposition. Characteristics, distribution, and classification of recent and ancient environments. Criteria for recognizing ancient environments. Sedimentological and paleoecological approaches. Recognition of ancient environments and environmental associations. Laboratory. Field trips required. Prerequisite: 425, 325 or concurrent enrollment. Elective Pass/Fail.

430-3 Physiography of North America. A regional study of North America landforms and their origins. The approach designed to give interaction among students, stimulus in organization and presentation of material and library competence. Plan a trip for optimum view of North American physiography. Prerequisite: 220. Elective Pass/Fail.

435-3 Hydrogeology. A problem-solving oriented course which covers the analysis and interpretation of the distribution, origin, movement, and chemistry of ground water. Laboratory. Prerequisite: 220, Mathematics 250. Elective Pass/Fail.

436-4 Elementary Exploration Geophysics. Theory and practice of geophysics as applied to the exploration and development of natural resources. Laboratory involves use of geophysical instruments and interpretation of data. Field trips required. Prerequisite: 220, Mathematics 150. Elective Pass/Fail.

437-3 Field Course in Geophysics. Use of geophysical equipment for collection, analysis, and interpretation of seismic, gravity, magnetic, electrical, and other types of geophysical data. Prerequisite: 436 or consent.

440-1 to 4 Advanced Topics in the Geological Sciences. Individual study or research or advanced studies in various topics. Prerequisite: advanced standing and consent of instructor. Elective Pass/Fail.

445-3 Museum Studies in Geology. History, nature, and purpose of geology in museums, relationships of geology to other museum disciplines, application of geological methods to museum functions, preparation and preservation of specimens; nature, acquisition and utilization of geologic collections in museums, role of research in museums.

449-1 to 2 Internship. Credit for professional experience in the geological sciences. Arrangements made with chairperson. Prerequisite: advanced standing. Elective Pass/Fail.

450-2 Introduction to Field Geology. Introduction to field techniques, principles of geologic mapping and map interpretation. Field trip fee \$5. Prerequisite: 302, 315, or concurrent enrollment. Elective Pass/Fail.

454-6 Field Geology. Advanced field mapping in the Rocky Mountains, including problems in stratigraphy, structure, petrology, paleontology, geomorphology, and economic geology. Transportation costs approximately \$150, supplies \$6. Prerequisite: 302, 315, 450 recommended. Elective Pass/Fail.

455-3 Engineering Geology. (Same as Engineering 455.) An examination of problems posed by geology in the design, construction, and maintenance of engineering works. Topics studied include ground water, land subsidence, earthquakes, and rock and soil mechanics. One term paper and a field trip required. Prerequisite: 220 or consent. Elective Pass/Fail.

460-3 Geological Data Processing. Computer applications to geological problems including the processing and programming of data and the interpretation and evaluation of results. Lecture, laboratory. Prerequisite: Engineering 222 or Computer Science 202. Elective Pass/Fail.

462-3 Fundamentals of Structural Geology II. Intermediate topics in structural geology including strain theory, field strain analysis, geometry of complex mesoscopic structures and introductions to dislocations, deformation history, and microfabric analysis. Hypotheses of orogenesis are discussed and evaluated. Lecture and assigned problems only. Prerequisite: 302 or equivalent.

465-3 Evolution of Orogenic Belts. A combination of lectures and seminars in which the structural and petrological development of specific orogenic belts is investigated in detail. Prerequisite: 302, 315, or equivalent. Elective Pass/Fail.

470-3 Earth Science for Teachers. Designed to help each teacher improve knowledge and skills of the earth sciences, develop units, laboratories, and resources for the classroom. Subjects range from rocks and landforms to weather; from local geology to specific resource people. Prerequisite: teaching experience. Elective Pass/Fail.

474-3 Geomorphology. Study of erosional and depositional processes operating at the earth's surface and landforms resulting from these processes. Relationship of processes and landforms to the geologic framework is examined. Laboratory. Prerequisite: 220. Elective Pass/Fail.

476-3 Pleistocene Geology. Deposits, stratigraphy, and history of the Pleistocene epoch. Evidence for differentiating and dating the glacial and interglacial sequence examined including deep sea cores, soils, magnetic studies. Required field trips. Prerequisite: 220, 221. Elective Pass/Fail.

478-3 Environmental Geology. Identification of geologic conditions and processes which affect people's use of the environment: earth materials and structure, climate, water, topography, active geological processes, hazards; impact of extraction, construction, water collection and control, and waste disposal. Introduction to aims and responsibilities of government regulatory agencies, environmental groups and industry. Lecture, laboratory, field trips, individual projects and reports. Prerequisite: 220 or equivalent and advanced standing.

480-3 Geology of Coal. Geology as related to exploration, development, and mining of coal;

stratigraphy sedimentation and structure of coal deposits; types of coal basins and their tectonic setting; concepts of cyclical deposition in coal basins; origin of splits and partings in coal seams; relationship of modern environments and ancient coal-forming environments; structural problems relevant to exploration and mining of coal; methods of resource evaluation. Three 1-hour lectures/week; five 1/2-day field trips.

482-3 Coal Petrology. Structural features and microscopy of coal seams. Origin and alteration of coal constituents. Includes field trips, study of coal specimens, and techniques. Prerequisite: 220 and 221 or consent of instructor. Elective Pass/Fail.

484-3 Palynology. (Same as Botany 484.) Taxonomy, morphology, stratigraphic distribution, and ecology of fossil pollen, spores, and associated microfossils. Prerequisite: 220, 221, or consent of instructor. Elective Pass/Fail.

500-1 to 2 Teaching for Geology Graduate Students. To help teaching assistants develop skills in conducting laboratory work and leading discussions. One hour required for all teaching assistants in geology. Graded S/U only.

510-3 Advanced Sedimentation. Physical processes that govern the erosion, transportation, and deposition of detrital sedimentary particles. Formation and preservation of sedimentary structures. Physical sedimentary processes operative in different non-marine, coastal, and marine environments. Laboratory. Field trips required. Prerequisite: 325.

513-2 Advanced Geologic Data Analysis. Probabilistic and statistical methods utilized in the analysis of geologic data. Examples taken from all areas of geology. Emphasis, however, on sedimentary and stratigraphic data analysis. Prerequisite: 460 or consent of instructor.

516-3 Industrial Rocks and Minerals. Geologic settings, origin and uses of rocks and minerals used by industry for purposes other than sources of metals. Lecture, laboratory, and field trips. Prerequisite: 315.

518-3 Clay Mineralogy. Study of the structure, chemistry, origin, and geologic importance of clay minerals. Industrial and other applications of clays. Lecture, laboratory. Prerequisite: 310 or consent.

520-3 Igneous Petrology. Theoretical, experimental, and observational considerations applied to genetic relationships of igneous rocks. Laboratory to utilize the petrographic microscope in studying rocks from igneous terranes. Prerequisite: 315, 415.

521-3 Metamorphic Petrology. Theoretical and experimental approaches to solving problems in metamorphic petrology. Comparative studies between well-known metamorphic provinces. Laboratory to utilize the petrographic microscope in studying rocks from metamorphic terranes. Prerequisite: 315, 415.

522-3 Sedimentary Petrology-Siliciclastics. The petrography and petrology of siliciclastic rocks, emphasizing sandstones. Micro-

scopic studies of composition and components of detrital clastic rocks, their origin, provenance, characteristics, diagenesis, cementation, and lithification. Prerequisite: 325 or 415 or consent; 520 or 521 recommended.

523-3 Sedimentary Petrology-Carbonates. The origin, classification, diagenesis, and geochemistry of carbonate rocks, with emphasis on petrographic analysis. Study of recent carbonate depositional environments. Laboratory required. Prerequisite: 325, 418 recommended.

526-3 Advanced Topics in Applied Paleocology. Lectures, field, and laboratory studies, including techniques and quantitative methods. Preparation for research in paleocology. Emphasis on using fossil marine invertebrates and trace fossils to interpret ancient sedimentary environments. Prerequisite: 428 or consent.

527-3 Micropaleontology. Structure, classification, paleocology, stratigraphic distribution, and evolution of microfossils. Laboratory work in techniques of collection, preparation, and study of microfossils. Identification and use of microfossils in solving stratigraphic problems. Preparation for research in micropaleontology. Prerequisite: 425 or consent.

529-1 to 3 (1 per topic) Advanced Topics in Applied Invertebrate Paleontology. Lectures, readings, field and laboratory studies, including techniques and quantitative methods of study. Preparation for research in paleontology. Maximum of three hours credit. Topics may include: brachiopods; bryozoans; coelenterates; echinoderms; fossil species and numerical taxonomy; mollusks. Prerequisite: 425 or consent.

535-3 Advanced Hydrogeology. A combination of lectures, seminars, and independent studies of advanced topics in hydrogeology, particularly geochemistry and the response of aquifers to stresses such as tides, recharge, and saline intrusion. Prerequisite: 435.

537-3 Applied Seismology. Study of the seismic reflection techniques, including theory and methods of collection and analysis of seismic reflection data, the seismic method, waveform analysis, and digital filtering with computer applications and seismic instrument characteristics. Prerequisite: Mathematics 150 or consent.

538-3 Gravity and Magnetism. Study of gravitational and magnetic methods used for solution of geological problems; topics include fundamental theory of gravitational and magnetic fields of the earth, field operations, data analysis, anomaly separation, and interpretation of data. Prerequisite: Mathematics 150 or consent.

542-2 (1, 1) Seminar in Geology. Seminars in advanced topics in geology. Prerequisite: graduate standing.

565-3 Rock Deformation and Structural Systems. Advanced topics in structural geology with emphasis on theoretical and experimental study of rock deformation and analysis

of complex structural systems. Lecture and assigned problems only. Prerequisite: 462.

578-3 Fluvial Geomorphology. Detailed study of river processes, landforms, and major concepts related to geology. Flood, drainage basin analysis, and hydraulic geometry. Prerequisite: 474.

579-3 Advanced Geomorphology. A study of surficial processes and landforms with emphasis on concepts developed since 1950. Comparison of cyclic and non-cyclic models of landform evolution and detailed analyses of process mechanics. Prerequisite: 474 or consent of instructor.

582-1 to 6 (1 to 3 per semester) Advanced Coal Petrology. Microscopy, source materials, coalification, constitution, and classification of peats, lignites, bituminous coal, anthracite; applications to industrial problems. Prerequisite: 482.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Guidance and Educational Psychology

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

412-3 Human Behavior and Mental Health. A study of the principles of human needs, mechanisms of adjustment, and factors and conditions in life that tend to affect mental health. Prerequisite: junior or senior standing.

422-3 Assessment and Classroom Models. Classroom tests, measurement, standardized tests, grading, and the research knowledge in the application of ability grouping, team teaching, open education, and individualization for individuals of differing abilities.

442-3 Introduction to Counseling and Guidance Systems. The following topics will be covered: purposes of counseling and guidance; counselor roles in various settings; approaches to counseling; guidance activities; and application of the above.

481-1 to 12 Seminar. Conducted by staff members and distinguished guest lecturers on pertinent topics. Prerequisite: consent of instructor and department.

491-1 to 6 Special Research Problems-Individual Study. For majors. Formulating, investigating, and reporting on a problem in

the area of guidance. Prerequisite: advanced standing and consent of department.

494A-3 Child Counseling Practicum. A combined seminar, laboratory, and field experience representing the central focus of the program in elementary counseling. Enables the student to practice the role of the counselor under close supervision. Prerequisite: 537 and 3 additional hours from substantive course work in the guidance and counseling program.

494B-3 Adolescent and Adult Counseling Practicum. Practice of counseling skills with an adolescent or an adult population in varied settings. The professional setting depends on the student's interest area. Individual and group supervision are provided. Use of tape recorder is required. Prerequisite: 538 and 3 additional hours from substantive course work in the guidance and counseling program.

494C-3 Career Planning Practicum. Supervised experience in handling career development experiences at elementary, secondary, or college levels. Application of theoretical models to program development is stressed, including presentation of relevant lessons, handling of group guidance activities, and conducting individual career development counseling sessions. Intern experience in public school or college settings equal to one day per week is required. Prerequisite: 542 and 3 additional hours from substantive course work in the guidance and counseling program.

494D-3 to 6 (3, 3) Practicum in School Psychology. Observation and participation in case conferences related to the development of psycho-educational assessment and planning, including teacher and parent consultation, field observations, and psychometric applications. Prerequisite: consent of instructor.

502-3 Basic Statistics. A master's level terminal statistics course. Emphasis on descriptive statistics and graphical representation of data. Includes a brief introduction to hypothesis testing procedures. Credit will not be given for both 506 and 502.

506-4 Inferential Statistics. Covers basic descriptive techniques such as central tendency, measures of variability and graphical presentation of data. In addition, hypothesis testing, analysis of variance, nonparametrics, and simple linear prediction will be covered.

507-4 Multiple Regression. The general linear model is presented which allows for hypothesis testing including correlational analysis, analysis of variance, and analysis of covariance. Non-linear relationships are presented. Emphasis is placed on testing the stated research hypotheses. Prerequisite: 506.

511-3 Instructional Psychology. Critical review of empirical, methodological, and theoretical developments in the experimental study of instructional variables as related to student behavior. Prerequisite: None. Psychology 407 or equivalent is recommended.

512-3 Affective and Cognitive Behaviors at the School Level. Physical, mental, and

social growth, affective and cognitive theories, moral and political development, acquisition and utility of language, motivation, and memory. The course is designed to enable a teacher to deal effectively with the affective and cognitive behaviors of school adults and children of differing abilities.

513-3 Psychological Trends in Education. Study of literature from B. F. Skinner, Carl Rogers, Erik Erickson, Abraham Maslow, John Dewey, Laurence Cremin, Jerome Bruner, Haim Ginott, Clark Moustakas, A. S. Neill, John Holt, Charles Silberman, Thomas Gordon, Jean Piaget, Jerome Kagan, Sigmund Freud, etc., to provide the student with knowledge of contemporary psychological trends in education.

515-3 The Psychological Aspects of Instructional Design. Survey of applications of psychology to the design, delivery, and evaluation of instruction for cognitive and effective learning among individuals of differing abilities, including the gifted. Prerequisite: 511.

518-3 Psychology of the Classroom. The course is to develop classroom interpersonal skills such as values clarification, good listening skills, and empathy. Strategies for the resolution of conflicts will be presented and reasons for disruptive behavior will be discussed. Role playing, group processes in the classroom, behavioral modification, and classroom discipline will also be examined.

521-3 Analysis of Classroom Behavior-Consultative Practices for School Personnel. Trains school pupil personnel to serve as a consultant to classroom teachers regarding prevention and modification of undesirable classroom behaviors.

525-3 Cross Cultural Factors Affecting Counseling. Designed to cover special problems of different cultural groups in the counseling process. The influence of culture upon values, beliefs, interests, and feelings will be explored as they relate to the rights of the client.

530-4 Standardized Testing: Use and Interpretation. Principles and procedures for determining appropriate instructional uses of tests and how to apply tests in the process of helping individual students. Emphasis will be on necessary principles of understanding standardized tests, interpretation of test results to students, teachers, and parents, and developing school testing programs. In addition, methods for appraising guidance programs will be covered.

531-3 Principles of Measurement. Intended to provide theoretical principles of measurement which are applicable to both teaching and research. Part of the course will be devoted to current issues in measurement and to practical applications to these theoretical principles. Prerequisite: Guidance 506.

532-3 Theories of Intelligence. Nature and assessment of intellectual behavior with emphasis on the historical, theoretical, and developmental aspects of intelligence. Special

attention is given to test standardization and interpretation of the Stanford-Binet and Wechsler Scales.

533-4 Individual Measurement and Practice. Psycho-educational assessment of individual mental factors with attentions to all aspects of administration, scoring, interpreting, and utilizing the results of the Stanford-Binet Intelligence Scale, Wechsler Intelligence Scales for children and the Wechsler Adult Intelligence Scales. Additional charges not to exceed \$22 may be assessed for test kit rentals. Prerequisite: 494d, 532.

537-4 Counseling with Children: Theory, Techniques, and Practice. The foundations and techniques of individual and group counseling with particular emphasis on theories, operational approaches, tools, and related procedures. Students will be required to practice the techniques and approaches learned.

538-4 Interpersonal Relations: Theory and Practice. In this course, students will: understand the nature of counseling; be familiar with theoretical models of interpersonal relationships; develop effective communication skills; and be acquainted with strategies used to modify attitudes and behaviors. Course requires student participation in laboratory activities and use of tape recorder.

540-3 Problems, Issues, and Trends in School Guidance and Counseling. Students will examine current problems, issues, and trends with an emphasis on strategies for solving the problems; clarifying the issues and placing them in proper perspective; examining possible ramification of the trends.

542-4 Career Development Procedures and Practices. For pupil personnel workers, teachers, and administrators to give an orientation to theoretical, economic, and informational aspects of vocational guidance and to provide experiences with using career information in counseling and decision making. Obtaining occupational and information materials for use in guidance and teaching. Taking vocational field trips and field work with children or adolescents will be required. Fees not to exceed \$12 may be assessed to cover the cost of field trips and other supplemental materials for the course.

543-3 Group Theory and Practice. Focuses on the theory, functions, and techniques of group procedures appropriately applied to decision making, problem solving, and resolution of conflict. Major emphasis is given to the dynamics of group behavior, the social-psychological interaction of small groups, and their applications to group counseling. Dual emphasis is placed upon interpersonal self-understanding and the familiarity with group procedures.

546-4 Personality Assessment. Assessment of individual interest patterns, motivations, and perceptual systems with attention to theories and assumptions of selected projective and objective diagnostic tests. Focuses on stu-

dent related problems in elementary and secondary education. Additional charges not to exceed \$22 may be assessed for test kit rentals. Prerequisite: 533.

547-3 Implementation of Guidance Services. Designed to furnish the prospective school counselor with knowledge and competency in planning and implementing a complete and integrated pupil personnel program for public schools. During the semester attention will be given to the parameters of such an integrated program, i.e., the function of a philosophical base; the principles which emerge from the philosophical position; the planning strategies best suited to implementing such a program; the actual recommendations for personnel, facilities, and materials; evaluation techniques and strategies; methods of reporting progress to students, school personnel, and the community, and an estimate of the per pupil cost. Prerequisite: experience in school guidance work, advanced standing in the counselor education program or equivalency to either of the above.

551-3 The Supervision of Practicum. Doctoral students will: become familiar with models of counseling supervision; practice supervision with master's students; and be acquainted with the research in the counselor training and supervision. Individual and group supervision are provided. Tape recording of supervision sessions is required.

555-3 to 6 (3, 3) Seminar in School Psychology. Major professional issues and responsibilities; the school as a social system; ethical considerations; school related agencies and facilities; and professional organizations. Assists the student to prepare the project proposal required for the specialists' degree. Prerequisite: consent of instructor.

562-6 (3, 3) Human Development in Education. Theories and research evidence regarding child development and behavior are investigated. These considerations focus upon implications for research and educational practices. (a) Childhood. (b) Adolescent.

567-2 to 9 (2 to 6 per semester) Topical Seminar in Educational Psychology. Contemporary topics and problems in the area of educational psychology. Conceptual and empirical activities. Prerequisite: consent of instructor.

568-1 to 12 (1 to 6 per semester) Topical Seminar in Counseling and Guidance. Contemporary topics and problems in the area of counseling and guidance are covered. Conceptual experiential and empirical activities are stressed. Each course can be offered for one hour or more depending on current validity at the time offered. A student may also retake a course as the issues change in that area.

570-3 Humanistic and Behavioral Theories in Education. Doctoral students will critically examine major humanistic and behavioral systems; evaluate the research dealing with the systems; and be able to apply the systems to educational problems.

580 Doctoral Seminar in Educational Measurement and Statistics. A series of advanced seminars on statistics and measurement. Sections a through h may be taken only once each. Section i may be repeated as topics vary.

- (a)- 3 Advanced regression analysis.
- (b)- 3 Factor analysis.
- (c)- 3 Multivariate methods.
- (d)- 3 Nonparametric methods.
- (e)- 2 Evaluation methods.
- (f)- 3 Experimental design.
- (g)- 3 Advanced measurement theory.
- (h)- 3 Computer applications.
- (i)- 2 to 6 per semester. Selected topics.

592-1 to 8 (1 to 6 per semester) Independent Study and Investigation. For advanced graduate students. Topics of interest to the individual student are studied under supervision of a department staff member. Prerequisite: consent of department.

593-1 to 4 Individual Research. For doctoral students in educational psychology. Formulating, investigating, and reporting of research problems in the area of guidance and educational psychology. Prerequisite: consent of department.

594-1 to 6 Advanced Practicum. Primarily for advanced master's or doctoral students who want to continue developing their counseling skills. Counseling settings are individually arranged, however, they typically follow the 494 practicum experience.

595-4 to 8 (4, 4) Internship in the Psychology of Teaching. Full- or half-time teaching practice in the management of classroom behavior, and the design, delivery, and evaluation of instruction. Interns will be supervised by University staff. Prerequisite: 512, 513, 518, 540, and the consent of department.

596-15 (5 per semester) Internship in School Psychology. The purpose of the internship is to provide an opportunity to integrate the broad range of skills requisite to a position in school psychology. The internship provides the student with a full-year of full-time supervised experience in a pre-approved setting. Enrollment assumes completion of a master's degree in educational psychology or a related area and all course requirements for the specialist's degree in guidance and educational psychology. Graded S/U only.

599-1 to 6 Thesis. Prerequisite: consent of department.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Health Education

400-3 Health Appraisal of School Children. The teacher as a member of the health team in recognizing common health deviations. Emphasis on helping each child realize full health potential.

401-3 Epidemiological Approaches to Disease Prevention and Control. Principles and practices in the cause, prevention, and control of diseases in various community settings.

402-3 Death Education. Designed to prepare educators to conduct learning experiences about death and dying in a variety of school, college, medical care, and community settings. Stress will be placed on developing brief, functional curricula and usable, imaginative teaching-learning materials, and on evaluating resource materials for use in educating at various levels of maturity.

405-3 Sex Education. Examines various programs of sex and family life education in schools, recognizing a range of community attitudes.

407-3 Drug Education. Meets requirements of Illinois state law for education concerning drugs including alcohol for grades K-12. Explores motivations behind use and abuse of drugs. Offers experiences in development of curriculum and teaching approaches and materials.

411-3 Emergency Medical Techniques in the Wilderness. Placement of trained emergency medical technicians into a wilderness situation and have them adopt previously learned skills and newly developed skills. Required to purchase supplies at a cost of \$10 per student. Prerequisite: consent of instructor.

434-3 Advanced First Aid and Emergency Care. Meets the needs of those in positions where a complexity of first aid and emergency care procedures are needed. American National Red Cross and Illinois Heart Association cardiopulmonary resuscitation instructor authorizations provided. Consent of instructor required.

440-3 Health Issues in Aging. Students enrolled in the course will be involved in a wide variety of learning activities focusing on health needs of the elderly. The course is designed for students who have a special interest in health implications of aging.

441-3 Women's Health The course deals with a wide variety of health concerns of American women as consumers in the current health marketplace. Major categories of topics include health products, health services, and sources of health information of particular interest to women. The major purpose of the course is to provide a basis for informed decision-making by the female consumer.

442S-5 Driver and Traffic Safety Educa-

tion-Practicum. Provides prospective teachers with simulation, range, and on-road teaching experience with beginning drivers. Students may be required to purchase materials not to exceed \$15. Prerequisite: 302S.

443S-3 Driver and Traffic Safety Education-Program Administration. Emphasizes administration, reimbursement, scheduling, public relations, planning, and evaluation of driver education programs. Prerequisite: 442S or consent of instructor.

445-2 to 6 (2 to 3, 2 to 3) Contemporary Specialized Laboratory Techniques. Provides teachers and other highway safety personnel with instructional experience in (a) motorcycle safety, (b) emergency, evasive, and pursuit driving. Prerequisite: 302 or consent of instructor. Maximum of 6 semester hours may be obtained either graduate or undergraduate.

450-3 Health Programs in Elementary Schools. Orientation of teachers to health programs and learning strategies. Designed for elementary education majors.

460-3 Health Programs in Secondary Schools. Orientation of teachers to health programs and learning strategies. Designed for secondary education majors. Open to non-health education majors only.

461-3 Health Education Summer Conference. A different focal theme each year; e.g., mood modifying substances, ecology, human sexuality, emotional and social health dimensions. Information, ideas, and concepts are translated into teaching-learning materials and approaches; continuing opportunity for interaction between prospective and experienced teachers.

462-3 Health Education Summer Conference. Conference style and format are similar but themes change.

463-3 Health Education Summer Conference. Conference style and format are similar but themes change.

470S-3 Highway Safety as Related to Alcohol and Other Drugs. Relationship between alcohol and other drugs and traffic accident causes. A review of education programs designed to minimize drug related accidents. Prerequisite: advanced standing or consent of instructor.

471-2 Health Education Instructional Designs. Analysis of existing health education curricula with emphasis on student development of instructional designs and modules. Students will prepare, utilize, and critique materials. Prerequisite for student teaching in health education. Prerequisite: 305.

475S-3 Traffic Law Enforcement and Planning. Acquaints safety and driver education teachers and highway safety personnel with purposes of traffic law enforcement and engineering, and methods used to fulfill these purposes. Emphasis is placed upon ways of improving existing services and coordinating efforts of official and non-official agencies concerning traffic problems. Prerequisite: 302S or consent of instructor.

480S-3 Traffic and Driver Education Program Development. Acquaints students with curriculum innovation, current philosophy, learning and teaching theories, and instructional designs. Students will develop learning packages and modules. Prerequisite: 443S or consent of instructor.

481S-3 Traffic and Safety Education-Evaluation Techniques. Emphasizes methods of evaluation as applied to traffic and safety education programs. Prerequisite: 480S or consent of instructor.

483-3 Community Health Administration in the United States. Background and development of community health administration structures in the United States; the dynamics and trends evolving from current health and medical care programs and practices.

485-3 International Health. Health beliefs, values, and practices of peoples in various cultures as related to a total way of life of potential value to both prospective teachers and students in other fields.

488-3 Environmental Dimensions of Health Education. Application of the principles of learning to understanding people interacting with their environment. Emphasis placed upon individual and community responsibilities for promoting environmental health. Rural and municipal sanitation programs and practices are included.

489-3 Introduction to Vital Statistics. An introduction to bio-statistics; examination of theories of population projections; collection, organization, interpretation, summarization, and evaluation of data relative to biological happenings with emphasis on graphic presentation.

490-2 to 6 Field Experiences in School, Community Health, or Safety Education. Field observation, participation, and evaluation of current school or community health education or safety programs in agencies relevant to student interests. Prerequisite: consent of instructor.

491-3 Health Teaching/Learning: School and Community. Teaching and learning strategies at secondary school levels and in other community group settings. Opportunities to examine and observe a variety of educational strategies applicable to health education.

495S-3 Driver Education for the Handicapped. Methods and techniques in the use of assistive equipment and program materials for teaching handicapped persons how to drive. Prerequisite: advanced standing or consent of instructor.

496-4 Industrial Hygiene. Provides a background in the recognition, evaluation, and control of toxic materials and hazardous physical agents in the work environment. Prerequisite: consent of instructor.

499-3 Rx: Education in Health Care Settings. Designed for members and potential

members of the health care team to explore educational concepts and strategies applicable to a variety of health care settings. Includes rights and responsibilities of consumer and professional, determinants of health behavior, contrasting models of health care, communication skills, media and materials and planning, implementing and evaluating educational programs. Open to medical and dental personnel, nurses, health educators, dietitians, therapists, pharmacists, social workers and related professionals.

500-4 Community Organization for Health Education. Theory and practices in community organization for health education; group work methods and leadership theories are explored. Field observations required.

510-3 Curriculum in Health Education. Analyzes the significance of current trends in curriculum theory and design; develops objectives, content, learning approaches, resource teaching-learning materials; and evaluation as components of a curriculum guide.

511-3 Health Education Conference Practicum. A summer practicum course taken in conjunction with 461, 462, or 463. Participants help plan the conference, analyze activities, suggest alternatives, assume leadership responsibilities, prepare conference proceedings, and design a comparable experience with another focal theme. Prerequisite: consent of instructor.

515-3 Review of Current Literature in Health Related Fields. Develops a broad philosophical framework for health education and safety education, examining a variety of professional materials for their relevance to such a framework. Reading, reporting, discussing, and interacting in relation to issues of contemporary and future concerns by conceptualizing health as a process in the realization of individual and societal goals.

520-3 Special Projects in Health Education. Study of problems in health education and safety education culminating in a research paper.

526-3 Evaluative Approaches to Health Education. Survey and analysis of health testing and evaluation procedures, uses and limitations of knowledge and attitude tests, behavioral inventories, check lists, questionnaires, interviews, and other techniques.

530S-3 Research in Traffic Safety. A study of unique problems related to traffic safety and a review and evaluation of contemporary studies. Prerequisite: graduate standing or consent of instructor.

533A-4 Human Ecology I. The development of a theoretical construct for individual needs and community concerns. Programming trends related to the life-cycle including aging. An epidemiological approach to understanding the cause, nature, extent, and trends in conservation of human resources.

533B-4 Human Ecology II. Approaches to protective and preventive health measures. A study and evaluation of pilot and experimental programs of research and development in

community efforts to meet existing and evolving health problems. An analysis of needed experimentation, research, and possible sources for planning leadership, programming, and funding for enhancing the quality of life. Prerequisite: 533A or consent of instructor.

536-3 Professional Preparation in Health Education. Considers national, state, and local factors influencing professional preparation, accreditation, and certification processes. Emphasis upon influences of official and non-official agencies. Historical perspective, the present status, and future directions of the profession.

550S-3 Current Developments in Traffic and Safety Education. Current problems, trends, and research studies in traffic and safety education are reviewed, critiqued, and evaluated.

555S-3 Traffic Safety Management. Course deals with highway safety legislation and other acts related to traffic safety. Application of safety management techniques, procedures and structure of federal and state agencies are emphasized. Prerequisite: consent of instructor.

572-3 Coordination and Supervision of School Health and Safety Programs. For advanced students who will have leadership responsibilities in planning, implementing, and coordinating comprehensive health and safety education programs at all levels from preschool through junior colleges. Cooperative relationships among teaching, administrative, and supervisory personnel with community groups will be stressed.

590-8 Practicum in Community Health. Students are assigned full-time to a community health agency for experiences in health education. Restricted to those specializing in community health.

592-8 Practicum in Safety and Industrial Health. Students are assigned full-time to a safety agency or industry for experience in either safety or industrial health. Restricted to those specializing in safety industrial health. Prerequisite: consent of instructor.

597-2 (1, 1) Seminar in Health Education. Advanced graduate students discuss individual health projects and present research problems. Each will present a dissertation prospectus.

598-3 Institute: Writing Research Proposals. Consideration is given to funding sources, proposal guidelines, procedures for support, budgetary requirements, and evaluation procedures. Students examine different types of funded projects, develop a research prospectus, and analyze the art of grantsmanship and political action.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their

dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Higher Education

402-1 to 3 Principles of Student Personnel Group Work. Acquaints the student with group work possibilities and functions in higher education. Elective Pass/Fail.

431-3 Workshop in Adult and Community Education. (See Educational Leadership 431.)

501-2 Introduction to Research in Higher Education. Provides an understanding of diverse research forms, of historical, ethical, and philosophical considerations in research, and of current issues in educational research with special reference to tertiary institutions.

510-3 Higher Education in the United States. An overview of American higher education in historical and sociological perspectives: its development, scope, characteristics, issues, problems, trends, and criticism.

512-3 Higher Education in Selected Nations. A study of higher education systems and trends outside the United States and of the role of the university in world affairs.

513-3 Organization and Administration in Higher Education. Theories and practices in governance of various types of higher education institutions with attention to problems of formal and informal structures, personnel policies, decision making, institutional self-study, and societal-governmental relations.

515-3 College Student Development: Operations and Policies. Study of organization, functions, and undergirding principles and policies of student development and the related student personnel services and programs in contemporary colleges and universities including community colleges.

516-3 College Students and College Cultures. Study of the nature of students, the impact of the college on student development, and the nature of the college as a unique social institution. Study of student subcultures and the interaction between students, institutions, and communities.

518-3 College Teacher and College Teaching. A study of the professional roles of academic people: as teachers, scholars, researchers, members of the professions, and faculty members. Emphasis is placed on classroom strategies to extend educational opportunities, the characteristics and values of faculty members, the teaching-learning process, models of effective behavior, and academic freedom.

521-3 Curriculum Design and Policy. A study of assumptions, materials, methods, and evaluation in the designs of various curricula in colleges and universities, with attention to curriculum resources and policy.

525-3 Philosophy of Higher Education. Critical examination of assumptions, aims, operations, consequences, basic concepts, and symbols of higher education from philosophic perspectives.

526-3 The Community College. A study of the characteristics and functions of the community or junior college in American higher education. Course content aids the student in developing a general understanding of the philosophy, objectives, organization, and operations of this significant institution.

528-3 Finance in Higher Education. A study of financing higher education in American society and related economic aspects. Emphasis is given to sources of funds and management of financing in colleges and universities including budgeting, control, accountability, and current trends.

535-1 to 14 (a-h-1 to 3 each; i-1 to 6) Higher Education Seminar I. A series of seminars for specialized study of areas of administrative practice and policy. (a) student personnel group work, (b) law and higher education, (c) student financial assistance, (d) admissions and records, (e) academic advisement, (f) academic and faculty administration, (g) adult and continuing education, (h) sociology of higher education, (i) selected topic.

545-1 to 16 (a-g-1 to 3 each; h-1 to 8) Higher Education Seminar II. A series of seminars for scholarly inquiry into significant aspects of higher education. (a) community college administration, (b) federal government and higher education, (c) institutional research, (d) current issues in higher education, (e) problems in central administration, (f) business and fiscal affairs, (g) history of higher education, (h) selected topic.

550-1 to 4 Higher Education Seminar III. An advanced seminar for doctoral students in higher education. Two hours required for all doctoral students. Prerequisite: doctoral students only.

589-1 to 4 Higher Education Research Seminar. Limited to doctoral students formulating and preparing research designs for investigation and implementation. Graded *S/U* only. Prerequisite: consent of instructor.

590-1 to 6 Individual Readings. Supervised readings in the literature of higher education. Graded *S/U* only. Prerequisite: consent of instructor.

591-1 to 6 Individual Study. Individual inquiry into selected problems or special topics in higher education under supervision of a graduate faculty member. Graded *S/U* only. Prerequisite: consent of instructor.

592-1 to 6 Special Problems (Individual). Selection, investigation, and writing of a special research project under the personal supervision of a graduate faculty member. Graded *S/U* only. Not available to students in doctoral programs. Prerequisite: consent of instructor.

595-1 to 6 Internship in Higher Education. Supervised field experience in appropriate

ate settings with evaluation seminars. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation. Minimum requirement for Ph.D. in education is 24 hours.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

History

413-3 European Rural Society, 400-1100 A.D. (See Sociology 413.)

414-3 European Urban Society, 1000-1550 A.D. (See Sociology 414.)

417-4 Cultural History of the Middle Ages. Selected problems in the development of mediaeval culture, the mediaeval universities, and the transmission of ancient ideas to the modern world. Elective Pass/Fail.

418-3 Renaissance. The focus is on the Renaissance in Italy and in particular on its relation to the social and economic context in which it developed. The spread of humanism and humanistic values to other areas of Europe will also be considered. Elective Pass/Fail.

420-3 Reformation. Concentrates on the movement of religious reforms in the 16th Century. Emphasis on its roots in the past, particularly in earlier expressions of popular piety and to the wider social and political effects in the 16th and 17th centuries. Elective Pass/Fail.

421-6 (3, 3) Absolutism and Revolution: Europe 1600-1815. (a) 1600-1715; (b) 1715-1815. The development of enlightened despotism, the rise of the revolutionary movement, and the Napoleonic period. Elective Pass/Fail.

422-6 (3, 3) Intellectual History of Modern Europe. (a) 1600-1815; (b) since 1815. The first semester will cover the Age of Reason, the Enlightenment, and Early 19th Century Romanticism. The second semester will cover the period of Marx and Darwin to the Contemporary World. Elective Pass/Fail.

423-3 Diplomatic History of Modern Europe. A study of the European state system and the diplomacy of the major powers, with emphasis on events since 1870.

424-6 (3, 3) Social and Revolutionary Movements in Nineteenth Century Europe. (a) 1815-1871; (b) 1871-1914. Changing social and political structure of Europe caused by the impact of industrialization and the French Revolution. The consequences of these developments in terms of the emergence of new social forces and the development of move-

ments for social and political revolution. Elective Pass/Fail.

425-6 (3, 3) Twentieth Century Europe. (a) World War I to World War II; (b) World War II and after. Problems in the political, social, and military history of Europe in the 20th Century.

430-3 The British Empire-Commonwealth. The rise of the British Empire and its subsequent development into a commonwealth of self-governing nations.

431-3 British Constitutional History. The development of the English constitutional system from its origins to modern times. Elective Pass/Fail.

432-4 History of France. Social, economic, political, and intellectual evolution from mediaeval origins to the present day. French contributions to western culture. Elective Pass/Fail.

433-3 History of Germany. German state and society from the Middle Ages to the present day. Elective Pass/Fail.

434-3 History of Scandinavia. Denmark, Norway, Sweden, Finland, and Iceland. Related history of the Baltic and North Sea regions, from prehistoric times to the present. Elective Pass/Fail.

435-3 History of Modern Italy. Italy in the 19th and 20th centuries. Emphasis is on continuing problems: the tensions between agricultural south and industrial north, Italy's role as a Great Power, and the persistence of centrifugal forces in Italian politics. Elective Pass/Fail.

436-6 (3, 3) History of Spain. (a) To 1700; (b) Since 1700. Institutional, intellectual, socio-economic, and political history from the Middle Ages to the present. Elective Pass/Fail for (b) only.

437-6 (3, 3) History of Russia. (a) Imperial Russia from Peter the Great to the emancipation of the serfs; (b) Russia since emancipation: modernization and revolution. The study of Russian history from Peter the Great to the present. Elective Pass/Fail.

440-3 Tudor-Stuart England. England from 1485 to 1714. The social, economic, and political development of Britain during the crucial two centuries from late feudal anarchy to world power.

450-4 American Colonial History. The discovery, settlement, and development of the colonies before the American Revolution.

451-3 Jeffersonian and Jacksonian America, 1789-1850. Origin and development of democratic institutions and the emergence of sectional conflict in the pre-Civil War era. Elective Pass/Fail.

452-6 (3, 3) United States History 1850-1896. (a) Civil War era; (b) the origins of modern America; reconstruction and nationalization: 1885-1896. The study of the background to the Civil War, the Civil War, Reconstruction, and the Gilded Age.

453-6 (3, 3) Twentieth Century American History. (a) 1896-1921; (b) 1921-1945. The history of the United States since the 1890s

with emphasis upon politics, political ideas and diplomacy.

460-6 (3, 3) Social and Intellectual History of the United States. (a) To 1860; (b) since 1860. The development of American society and a study of the various types of economic, social, and political thought that have influenced it.

461-6 (3, 3) Constitutional History of the United States. (a) to 1877; (b) from 1877. Origin and development of the American constitution from the English background to the present time. Stress is placed on the political, social, and economic forces which influenced the American constitutional system. Elective Pass/Fail.

462-4 Problems in Black American History. Developments which formed the foundation for the "Black Revolution" of the present time.

463-6 (3, 3) History of American Diplomacy. (a) To 1914; (b) since 1914. General consideration of American foreign policy and the emergence of the United States as world power. Elective Pass/Fail.

464-6 (3, 3) American Economic History. (a) To 1869; (b) since 1869. The growth of the American economy from the colonial period to the present. Emphasis is placed on the historical forces which influenced the American economic system.

465-6 (3, 3) History of the South. (a) The Old South; (b) the New South. Social, economic, political, and cultural developments of the South.

466-6 (3,3) History of the American West. (a) Trans-Appalachian frontier. (b) Trans-Mississippi frontier. The American frontier and its impact on American society from the colonial period to the 20th century.

470-3 Colonial Latin America: Policies and Practices. Theory and operation of the Spanish and Portuguese colonial systems in the New World. Elective Pass/Fail.

471-6 (3, 3) History of Mexico. (a) 19th Century; (b) Revolutionary Mexico. Significant political, economic, diplomatic, social, and cultural aspects of Mexican life from independence to the present time with emphasis upon the Mexican revolutions. Elective Pass/Fail.

472-3 The Caribbean Area. A history of the Caribbean from Columbus to Castro. Elective Pass/Fail.

473-3 Argentina and Chile. A narrative and comparative history of these two leading Latin American nations with emphasis on the period since independence. Elective Pass/Fail.

474-3 Andean South America. The political, economic, social, and cultural development of the Andean nations from Precolumbian times to the present. Elective Pass/Fail.

475-3 History of Brazil. The political, social, cultural, and economic development of Latin America's largest nation. Elective Pass/Fail.

476-3 Dictatorships in Latin America. A political, economic, social, and military study

of the domestic and international aspects of dictatorship. Elective Pass/Fail.

480-6 (3, 3) History of Chinese Civilization. (a) Traditional China; (b) Modern China. The first semester provides a full coverage of traditional China with emphasis on classical philosophies, religions, historical writings, literature, arts, and science. The second semester deals with the transformation of China into the modern ages. Elective Pass/Fail.

484-3 History of Inner-Asian Relations. Tribes, migrations, wars, and power politics in Central Asia and outlying areas of China from Han times through 19th century rivalries to latest developments along the Sino-Soviet frontier. Elective Pass/Fail.

485-3 History of the Middle East. A study of the Middle East from the 7th through the 16th centuries concentrating on the following major themes: the development of Islamic civilization, the mediaeval Muslim world, the disintegration of the Arab caliphate, the rise of the Ottoman Turks, and the development of the Ottoman Empire.

490-1 to 4 Special Readings in History. Supervised readings for students with sufficient background. Prerequisite: registration by special permission only.

491-3 Historiography. Writings of historians from Herodotus to Toynbee. Elective Pass/Fail.

492-4 Historical Research and Writing. Methods of historical investigation, criticism, and composition. Open not only to history majors but with permission of instructor to those in other disciplines interested in history as a research tool.

493-1 to 6 Problems in History. Topics vary with instructor. May be repeated for a maximum of six semester hours provided registrations cover different topics. Topics announced in advance.

494-3 Quantitative Research in History. An introduction to the application of quantitative data and social science methods to historical research.

495-4 History Honors. Principles of historical method, research, and writing for senior honor students only. Not for graduate credit. Prerequisite: consent of department.

496-1 to 12 Internship in History. Supervised field work in public or private agencies or operation where history majors are frequently employed, such as archives and libraries, government offices, communications media, historic sites, and museums. Only three hours may be applied to the major and nine hours toward graduate work. Prerequisite: consent of department.

497-3 Historical Museums, Sites, Restorations, and Archives. The historical development of the museum from the Academy, the Lyceum, and the Great Museum of Alexandria. Discussion of the museums that have developed in the last three centuries with emphasis on the United States will include

historical sites such as battlefields, forts, historic buildings, restorations, historical monuments, and major archives. Field trips to some of these sites form part of the course.

498-3 Problems of the History Museum. Examines the general background and function of the museum in its contemporary setting with special emphasis on tasks of the individual who wishes to work in a historical museum or in an interpretative center. Given in cooperation with the University Museum. Prerequisite: consent of instructor.

515-3 to 6 (3, 3) Studies in Mediaeval and Renaissance History. A study of the major historical literature on the Middle Ages and Renaissance.

516-4 to 8 (4, 4) Seminar in Mediaeval and Renaissance History. A research course concerning selected topics in Middle Ages and the Renaissance.

520-3 to 6 (3, 3) Studies in Early Modern European History. A study of the major historical literature in early modern European history.

521-4 to 8 (4, 4) Seminar in Early Modern European History. A research course concerning selected topics in early modern European history.

522-3 to 6 (3, 3) Studies in Modern European History. A study of the major historical literature in modern European history.

523-4 to 8 (4, 4) Seminar in Modern European History. A research course concerning selected topics in modern European history.

530-4 Seminar in English History. A research course concerning selected topics in English history.

550-4 Seminar in American Colonial History. A content and research course concerning specific areas of American Colonial history.

551-4 The Age of Jefferson. A content and research course on the rise and development of Jeffersonian Democracy, 1790-1824, with emphasis upon social, economic, and political programs of Republicans and Federalists; the clash of mercantile and agrarian interests.

552-4 Reform Movements in the Pre-Civil War Period. A content and research course concerning major political, economic, and social issues, 1825-1850, which divided the United States and prepared the way for civil war.

553-4 Seminar in Twentieth Century United States History. A content and research course on American political history and behavior since 1896.

554-4 New Viewpoints in American History. New interpretations and recent developments in American history.

555-4 to 8 (4, 4) Seminar in American History. A content and research course in American history. Topics will vary with the instructor.

561-4 Seminar in American Constitu-

tional History. A content and research course concerning specific areas of American Constitutional history.

563-4 Seminar in American Diplomatic History. A content and research course concerning selected studies in American diplomacy.

566-4 Seminar in American Frontier History. A content and research course concerning selected topics in American frontier history. Prerequisite: 466a, b, or permission of instructor.

567-4 Seminar in Illinois History. A content and research course concerning selected topics in Illinois history.

570-4 to 8 (4, 4) Seminar in Latin American History. A content and research course concerning selected studies in Latin American history.

580-4 Seminar in Modern China. A content and research course concerning selected topics in modern Chinese history.

590-1 to 8 (1 to 3 per semester) Readings in History. Individual readings. Registration by special permission only. Student must obtain the consent of the faculty member involved. Graded *S/U* only. Prerequisite: registration by special permission only.

591-2 to 5 Independent Investigation. Graded *S/U* only. Prerequisite: doctoral standing and consent of graduate adviser.

593-4 Seminar in Contemporary History. A research course concerning selected topics in contemporary history.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

600-1 to 30 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Home Economics Education

(See vocational education studies)

Human Development, Division of

Students may enroll in the following courses for graduate credit unless otherwise indicated in the course description.

400-1 Orientation Seminar in Human Development. Includes a discussion of programs, information, and research presented by faculty and students. Introduction to library facilities.

481-2 to 6 Readings. Supervised readings on selected topics in the area of concentration. (a) Child and family; (b) family economics and management; (c) food and nutrition. Prerequisite: consent of instructor.

500-3 Research Methods. Study of principles of research design, interpretation of data, and study of writing of thesis or project. One hour lecture and a two hour practicum in which each student submits a research design appropriate to the specialization. Prerequisite: 400; Guidance and Educational Psychology 502 or Mathematics 420, or consent of instructor.

501-3 Human Development Through Life Cycle. Study of human development from economic, nutritional, and social perspectives. The course emphasizes the needs of the individual during each phase of the life cycle: pregnancy, infancy, preschool, school age, adolescence, adulthood, the elderly. Prerequisite: six hours 400-level or equivalent in human development courses.

502-3 Professional Services for Diverse Family Structures. Case analysis of different family structures through seminar teams. Each team will be responsible for analysis of the interaction of the family structure and the economic, nutritional, and socializing activities carried out within the family/household. Role and sources of assistance through current programs will be included. Prerequisite: six hours 400 level or equivalent human development courses.

503-3 Impact of Public Intervention on Family Life. An analysis of implications of pending and existing legislation as it relates to the economic, nutritional, and interactive aspects of the family treated as a system. Prerequisite: six hours 400 level or equivalent human development courses.

515-1 to 3 Seminar. Review and analysis of research, literature, and projects.

572-1 to 5 Special Problems. Selection and investigation of special problem under personal supervision of graduate faculty. (a) Child and family; (b) family economics and management; (c) food and nutrition. Prerequisite: consent of instructor.

593-1 to 3 Research Paper or Project. Writing of research paper or project in lieu of a thesis.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Child and Family

Persons desiring to concentrate in child and family must major in human development.

408-3 to 9 (3, 3, 3) Workshop. Designed to aid workers in professions related to child and family. Emphasis for the workshop will be stated in the announcement of the course.

410-3 Human Sexuality. Provides detailed in-depth information on such topics as philosophical views of sexual behavior, sex techniques, sex therapy, sexual variations, sexual anatomy and physiology, including the sexual response and changes with age, and sexual development in childhood.

445-3 Administration of Pre-School Programs. Planning and organizing programs for preschool or residential facilities including budgeting, staffing, programming, and evaluation. Prerequisite: 345 and 346 or consent of instructor.

456-3 Infant Development. Current theories and knowledge concerning growth and development of infants with related laboratory field experiences. Prerequisite: 237 or Psychology 301 or equivalent.

457-3 Infant Stimulation and Care. Application of theories in infant development in care and stimulation practicum. Development of competencies and skills needed by infant specialists and professionals. Two hours seminar, 4 hours practicum. Prerequisite: 456 or concurrent enrollment.

466-3 Practicum in Parent-Child Study. Designed to increase student's ability to work with parents and parent groups through an awareness of factors in the parent-child relationship and knowledge of current research and methods in parent education. Integration with infant and child development laboratories and related field experience. Prerequisite: 227, 237, or equivalent.

471-2 to 8 Field Experience. Supervised learning experiences in community nursery schools and public agencies. Eight hours maximum for students enrolled in preschool certification specialization, only. Other students limited to an enrollment of six hours maximum. Prerequisite: consent of instructor.

490-3 Introduction to Marriage and Family Counseling. Problems and techniques of premarital, marital, divorce, family, and family crisis counseling. Counseling individuals singly, in family units, and in groups. Prerequisite: 227 or equivalent and consent of instructor.

556-3 The Pre-School Child. Growth of the child from birth to six years with emphasis on the various aspects of growth and their interrelationships.

562-3 Child Development through Home and School. The normal, healthy development of children as it takes place in the home and is promoted by the curriculum and other school activities.

566-3 Interpersonal Relationships within the Family. A study of factors that promote satisfactions with the immediate family; planning and preparing teaching units, and source materials in this field. □

Family Economics and Management

Persons desiring to concentrate in family economics and management must major in human development.

407-1 to 3 Workshop. Designed to aid workers in professions related to use of family resources. Emphasis for each workshop will be stated in the announcement of the course. Every semester.

420-3 Trends in Household Equipment. Design, function, principles of operation, current trends, and ecological problems related to equipment use in household and society are considered. Prerequisite: 320.

430-3 Housing Alternatives. Selected aspects of the housing market and their relationship to changing life styles of households. Structure, operations and performance of the housing market and home building industry, housing finance, and contemporary housing problems and issues are considered. Fall Semester. Prerequisite: 330 or consent of instructor.

445-3 Family Financial Management. Developments in family financial management and the evaluation of methods and procedures for helping families, with emphasis on the role of the consultant. Case studies and simulation, as well as field problems, are included. Fall semester and alternate summers. Prerequisite: 340 and 350, equivalent, or consent of instructor.

451-3 Household Activity Analysis. A study of work methods and place, as well as the characteristics of the worker, in relation to solving problems of employed, full-time, and handicapped home managers.

480-3 Women in the Home and Labor Market. An evaluation and interpretation of the economic contributions of women in household production and in the labor market. Related issues such as fair employment practices, role conflicts, and legal issues will be considered.

494-1 to 4 Field Experience. Supervised learning experiences in an acceptable employment area. Every semester. Prerequisite: 370 and consent of chairperson.

499-1 Senior Seminar. A study of contemporary issues in the field of family economics and management including the concerns of new professionals entering the field. Not for graduate credit.

530-3 Societal Factors in Housing. An analysis of housing as it relates to levels of living in contemporary households. Cultural determinants, community development, governmental policies and programs, and personal and social organization are considered as they

relate to family housing. Spring semester. Prerequisite: 430 or consent of instructor.

535-3 Housing Consumption. Housing consumption patterns, housing markets, and economic aspects of government housing policies will be analyzed as they will affect family life styles. Composition of household and communities will be of special interest. Prerequisite: 341, Economics 215, or equivalent, and consent of instructor.

540-3 Consumption Trends. Contemporary trends and issues in family income and consumption are evaluated. Spring semester and alternate summers. Prerequisite: 340 or equivalent.

550-3 Advanced Home Management. Readings, observations, projects, and discussions are used in evaluation of current research trends and issues in home management as they reflect family management processes. Fall semester and alternate summers. Prerequisite: 350.

Food and Nutrition

Persons desiring to concentrate in food and nutrition must major in human development.

410-3 Educational Nutrition. The objective of the course is to provide teachers in public and non-public elementary and secondary schools with the necessary background to incorporate food and nutrition into the educational curriculum.

420-3 Recent Developments in Nutrition. Critical study of current scientific literature in nutrition. Prerequisite: 320 or equivalent. Elective Pass/Fail.

421-2 Recent Trends in Food. Critical study of current scientific literature in food. Prerequisite: 320 or equivalent. Elective Pass/Fail.

480-3 Community Nutrition. Offers a study of the objectives, implementation strategies, and evaluation methods of nutrition programs in the communities' health programs. Integration of nutrition into the health care delivery system at local, state, and federal levels is included.

490-3 Nutrition and Growth. The study of human nutrition during each phase of the life cycle, prenatal through geriatric. Students elect at least two phases for in-depth study. Prerequisite: consent of instructor and department chairperson. Elective Pass/Fail.

520-2 Advanced Nutrition. The biochemical and physiological basis of the metabolism of nutrients; current concepts. Prerequisite: 420 or equivalent.

556-3 Advanced Experimental Foods. Individual problems in food research and interpretation of pertinent literature. Prerequisite: 356 or equivalent.

580-1 to 18 (1 to 12 per semester) Nutrition Practicum in the Community. Supervised field participation and evaluation of comprehensive community nutrition pro-

grams. Field course may be taken in a block of 6 to 8 weeks or concurrent with course work. Approximately 50 to 55 hours of experience per one semester is planned. Prerequisite: 480 or consent of instructor.

Industrial Technology

There is no graduate degree program offered through industrial technology. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

420-3 Coal Analysis and Inspection. A study of methods and equipment for the inspection and analysis of coal including the techniques for the design of coal-quality experiments. Laboratory. Prerequisite: 365 or appropriate background.

425-3 Advanced Process Design and Control. Extension of other process courses offered. Meets the need of those students who enter the field of manufacturing by giving more emphasis on planning, estimating, and control of industrial processes. Laboratory. Prerequisite: 309, 310.

439-3 Bulk Materials Handling. Study of the various types of equipment used in the mining industry. Estimation of costs and output of equipment used for excavating and transporting earth materials. Prerequisite: appropriate background.

440-3 Manufacturing Policy. Review of all areas covered by the industrial technology program. Includes problems for solution which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Prerequisite: 358, 365, 375, 382, or consent of instructor.

441-3 Mine-Safety Technology. An in-depth study of the technological implications of the Federal Coal Mine Health and Safety Act. Emphasis is placed on the technology required to operate safely underground coal mines. Prerequisite: appropriate background.

450-3 Industrial Systems Analysis. Teaches the systems required for successful industrial operations. The role of the computer in system design and application is emphasized.

460-5 Mining Technology. Mining methods; mine ventilation and pumping systems; mine structures; power distribution; coal-mine development and exploitation. Prerequisite: 360 or appropriate background.

465-4 Industrial Safety. Principles of industrial accident prevention; accident statistics and costs; appraising safety performance; recognizing industrial hazards and recommending safeguards. Includes a study of the Occupational Safety and Health Act and the Coal Mine Health and Safety Act. Prerequisite: senior standing.

466-3 Occupational Safety and Health

Standards. Covers the standards, inspection procedures, and compliance requirements covered in the latest revisions of the Occupational Safety and Health Act of 1970. Emphasis is placed on developing the student's ability to detect violations of the standards and recommend corrective safety actions.

492-1 to 6 Special Problems in Industry. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected industrial problems. Not for graduate credit. Prerequisite: consent of instructor.

Journalism

400-3 History of Journalism. Development of American newspapers, magazines, and radio-television with emphasis on cultural, technological, and economic backgrounds of press development. Current press structures and policies will be placed in historical perspective.

401-3 International Communication. An analysis of the development, structure, functions, and current status of media systems in other countries. Emphasis given to studying factors that facilitate or restrict the flow of intranational and international communication.

405-3 Introduction to Mass Communication Research. Overview of communication research methods including practical training in interpretation and presentation of social science data. Introduction to survey research methods, experimental design, and use of computers for analysis of data. Presentation of data in journalistic forms and social science reports. Prerequisite: 310 or equivalent or consent of instructor.

411-3 Public Affairs Reporting. Covering government and other public agencies, including the city hall, courts, county offices, business, finance, agriculture, labor, and other specialized beats. One field trip is required. Cost should not exceed \$20. Prerequisite: 311.

420-3 School Publications. Designed for the prospective high school or junior college journalism teacher or publication director. Deals with practical production problems of school newspapers and yearbooks.

442-3 The Law of Journalism. Legal limitations and privileges affecting the mass media to include the law of libel, development of obscenity law, free press and fair trial, contempt of court, right of privacy, advertising and antitrust regulations, copyright, and access to the press. Prerequisite: senior standing.

450-3 Mass Media Management. Basic economic and management theory and application of theory to the management process in the mass media. Individual projects involving analysis of management of a selected medium. Prerequisite: consent of instructor.

451-3 Current Media Problems. Readings and weekly seminar discussions on the role of the journalist in seeking solutions to the problems facing the mass media in the last third of the Twentieth Century. Involves questions of economics, structure, ethics, effects.

461-3 Specialized Publications. Functions, operations, and problems of industrial, trade, business, professional, literary, and other specialized publications. Management, personnel, and production practices. Use of research in solving problems and setting policies.

462-3 Magazine Article Writing. Principles, problems, and techniques involved in producing free-lance and staff-written magazine articles with an emphasis on determining the relationship between article content and audience market. Prerequisite: 311.

476-3 Advertising Campaigns. Application of advertising principles and techniques to the solution of a specific advertising problem facing a cooperating advertiser or advertising agency; problem analysis, development of strategy, media planning, message development, campaign presentation. One field trip is required for a campaign presentation. Cost should not exceed \$20. Prerequisite: 372 and 374.

479-3 Social Issues and Advertising. Analysis of social issues involving advertising economic relationships, government and self-regulation, cultural effects, influence on media content and structure, role in democratic processes, international, and other problems and controversies. Prerequisite: senior standing.

490-1 to 6 (1 to 3, 1 to 3, 1 to 3) Readings. Supervised readings on subject matter not covered in regularly scheduled courses. Undergraduates limited to maximum 2 credits per semester. Prerequisite: written consent of instructor and area head.

494-1 to 3 Practicum Study, observation, and participation in publication or broadcast activities. Prerequisite: consent of instructor and area head.

495-1 to 12 (1 to 6, 1 to 6) Proseminar. Selected seminars investigating media problems or other subjects of topical importance to advanced journalism majors. Seminars will be offered as the need and the interest of students demand. Prerequisite: senior standing.

500-3 Research Methodology in Mass Communication I. Identification of research problems, formulation of concepts and research hypotheses in journalism and mass communication, sampling procedures, design of experimental and survey research.

501-3 Research Methodology in Mass Communication II. Problems of measurement, design, and analysis in journalism and mass communication research. Techniques of attitude scaling, questionnaire construction. Bivariate and multivariate data analysis. Procedures for the creation, management and analysis of large data sets using computer

programs. Prerequisite: 500 and Guidance and Educational Psychology 506, concurrent registration in 507.

504-3 Foundations of Mass Communication Theory. Conceptual orientation toward analysis of relationships in the mass communication channels. Emphasis on problem identification and relationships between philosophical basis for behavioral analysis of communication and empirical work in the field; reviews of selected literature.

505-3 Theoretical Issues in Mass Communication. Analysis and critique of recent theory and research. Examination of current trends in research and reviews of selected literature relating to mass communication in the areas of systems, interpersonal, mass media, intercultural, political, organizational, instructional, and health communication. Prerequisite: 504.

506-3 Significant Studies in Mass Communication Research. A review of a broad selection of early literature in communication research that has provided much of the conceptual basis for empirical studies during the past two decades.

510-3 Literature of Journalism. Critical reading, discussion, and evaluation of 20th century journalistic literature in such areas as media history, muckraking, press criticism, biography, memoirs and reminiscences, depiction of the journalist in fiction, new journalism.

511-3 Studies in Journalism History. Critical analysis of literature showing trends and developments in journalism before 1900. Approximately 100 books are examined in the context of social, political, and intellectual history of the times. Lectures, reports, and discussions.

512-3 Press Freedom and Censorship. Examination of the philosophical and theoretical bases of press freedom in the United States with attention to the press's English heritages and to numerous attempts at media censorship from the colonial period through the 20th century.

520-3 Communication and National Development. Functions of mass media of communication in the process of national development in the third world. Review of models of national development; problems in the diffusion and adoption of innovation; diffusion of information and influence in modernization of developing countries.

530-3 Historical Research in the Mass Media. Methods of data collection, analysis, organization, and presentation for historical research in mass media. Use of such sources as newspapers, archives, personal papers, manuscripts, and oral history. Use of statistical methods in mass media historical research. Prerequisite: 511.

540-3 Legal and Governmental Research in the Mass Media. Study of research procedures related to executive, congressional, judicial, and quasi-official reports and documents as they affect the mass media. Focus of

the study will be an examination of the legal interrelationship of the government and the media. Prerequisite: 442.

550-1 to 12 (1 to 4, 1 to 4, 1 to 4) Topical Seminar. Seminars on subjects of current interest, with the topics determined through student and faculty request and interest. Topics include audience analysis, communication and social systems, media economics, persuasive communications.

560-3 Seminar: Critical and Persuasive Writing. An analysis of the opinion function of the news media—the editorialist, the opinion columnist, and the critical reviewer—with emphasis upon the theoretical bases of persuasion. Students will study and evaluate various types of persuasive writing and will also write a number of editorials, columns, and reviews.

592-1 to 6 (1 to 3, 1 to 3, 1 to 3) Individual Research. Conduct of research reports for projects of an individual nature.

599-1 to 6 Thesis.

600-1 to 32 Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Latin American Studies

The following is a partial list of courses which may be taken for graduate credit in Latin American studies. Note that many of the 500-level courses offered by participating departments have general titles that permit individual instructors great flexibility in determining the content of the offering. These courses and similar offerings at the graduate level may be taken when they have substantial Latin American content. The appropriateness of such courses will be determined by the student's supervisory committee.

Agribusiness Economics

402-1 to 6 Problems in Agribusiness Economics.

442-2 Agricultural Development in Emerging Countries.

443-2 Marketing Practices and Problems in Emerging Countries.

Animal Industries

421-2 International Animal Production.

Anthropology

430B-3 Archaeology of Meso-America.

450-6 (3,3) Museum Studies.

460-1 to 12 Individual Study in Anthropology.

470c-3 Peoples and Cultures of the Caribbean.

470e-3 Peoples and Cultures of Latin America.

510-2 to 6 (2 to 3 per topic) Seminar in New World Archaeology.

511-2 to 6 (2 to 3 per topic) Seminar in Meso-American Archaeology.

515-6 (3,3) Seminar in Social-Cultural Anthropology.

520-2 to 6 (2 to 3 per topic) Seminar in New World Ethnology.

521-2 to 6 (2 to 3 per topic) Seminar in Ethnology of Latin America.

560-2 to 6 (2 to 3 per topic) Seminar in Comparative Social Organization.

562-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Contemporary Peoples.

565-2 to 6 (2 to 3 per topic) Seminar in Culture Change and Development.

581-2 to 6 (2 to 3 per topic) Seminar in Anthropology.

585-1 to 12 (1 to 3 per semester) Readings in Anthropology.

595-4 (2,2) Field Methods in Ethnology.

597-1 to 12 Fieldwork in Anthropology.

599-1 to 6 Thesis.

Business Administration

580-3 International Business Operation.

Economics

419-3 Latin American Economic Development.

520-6 (3,3) Economic Development Theory and Policy.

530-3 Foreign Trade.

531-3 International Finance.

599-1 to 6 Thesis.

Foreign Languages and Literatures

509-1 to 4 Research Problems-Spanish.

569-3 Bibliography and Research Techniques-Spanish.

Geography

524-2 to 4 Seminar in Cultural Geography.

591-2 to 4 Independent Studies in Geography.

593C-2 to 24 (2 to 6 per semester) Research in Urban and Regional Planning.

593D-2 to 24 (2 to 6 per semester) Research in Social Geography.

599-2 to 6 Thesis.

History

436-6 (3,3) History of Spain.

470-3 Colonial Latin America: Policies and Practices.

471-6 (3,3) History of Mexico.

472-3 The Caribbean Area.

473-3 Argentina and Chile.

474-3 Andean South America.

475-3 History of Brazil.

476-3 Dictatorships in Latin America.

570-4 to 8 (4,4) Seminar in Latin American History.

590-1 to 8 (1 to 3 per semester) Readings in History.

599-1 to 6 Thesis.

Philosophy

477-4 Latin American Philosophy.

478-4 Latin American Thought.

591-1 to 16 Readings in Philosophy.

599-2 to 6 Thesis.

Political Science

466-4 Governments and Politics of Latin America.

488-3 International Relations of the Western Hemisphere.

569-3 to 6 (3,3) Topical Seminar in Comparative Politics.

577-3 to 6 (3,3) Topical Seminar in Foreign Policy.

580-3 to 6 (3,3) Topical Seminar in International Relations.

590-1 to 6 Readings.

591-1 to 6 Individual Research.

599-1 to 6 Thesis.

Spanish

412-3 Advanced Grammar and Composition.

417-3 History of the Spanish Language.
434-3 Colonial Literature in Spanish America.

485-3 The Spanish-American Short Story.

486-3 Spanish American Drama.

487-3 The Spanish American Novel.

502-3 to 6 (3,3) Seminar in Hispanic Linguistics.

504-3 to 6 (3,3) Seminar in Spanish American Literature.

535-2 to 4 (2,2) Spanish American Literature before 1900.

565-3 to 6 (3,3) Spanish American Literature of the 20th Century.

599-1 to 6 Thesis.

Linguistics

The Department of Linguistics offers courses toward the Master of Arts degree in linguistics and the Master of Arts degree in English as a foreign language.

401-4 General Linguistics. Basic concepts and methods of general linguistics. Fundamentals of the nature, structure, and functioning of language. Data manipulation and problem solving. Elective Pass/Fail.

402-7 (3, 3, 1) Phonetics. (a) Theory and practice of articulatory phonetics. (b) Theory and practice of instrumental phonetics. Prerequisite: 402a. (c) Transcription laboratory. Prerequisite: 402a. May be taken singly. Elective Pass/Fail.

403-3 English Phonology. Study of English phonology, both American and British, including phonetics, phonemics, and prosodics. Prerequisite: 300 or 401, and 402a, or consent of department. Elective Pass/Fail.

404-3 American Dialects. Regional variation and social stratification of American English. Phonological and syntactic differences among the major dialects of American English. Prerequisite: one previous course in linguistics. Elective Pass/Fail.

405-4 Phonological Theories. A survey of various phonological theories involving the phoneme from the 19th century up to the present, including theoretical issues arising therefrom and relationships among the theories. Limited data analysis within the perspective of the different theories. Prerequisite: 300 or 401, and 402a. Elective Pass/Fail.

408-4 Syntactic Theory. Basic concepts and formalisms of transformational generative grammar. Data manipulation and problem solving in English syntax. Prerequisite: 300 or 401 and 430 or consent of department. Elective Pass/Fail.

410-10 (5, 5) Intermediate Uncommon Languages. Review of the structure of modern spoken language. Introduction to written language. Emphasis on conversational style. The first semester carries undergraduate credit only. (g-h) Vietnamese, (i-j) Lao, (k-l) Cambodian. Prerequisite: 210 or equivalent.

411-3 The Linguistic Structure of Chinese. (See Chinese 410.)

412-3 The Linguistic Structure of Japanese. (See Japanese 410.)

415-3 Sociolinguistics. History, methodology, and future prospects in the study of social dialectology, linguistic geography, multilingualism, languages in contact, pidgin and creole languages, and language planning. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.

420-8 (4, 4) Advanced Uncommon Languages. Advanced conversation and reading of third-year level materials in preparation for classes conducted in the language. (g-h) Vietnamese, (i-j) Lao, (k-l) Cambodian. Prerequisite: 410 or equivalent.

422-3 Contemporary Vietnamese Prose. Open to advanced students. Short stories, novels, and essays (main trends and evolution). Emphasis on works of prominent authors since 1920, such as Nguyen V. Vinh, Pham Quynh, H. N. Phach, Nguyen T. Thuat, P. K. Binh, Khai Hung, and the recent generation. Prerequisite: 321 and 410.

423-2 Vietnamese Poetry. Classical and modern poetry. Emphasis on masterpieces and leading figures such as Nguyen Trai, Nguyen Binh Khiem, the authors of Chinh Phu Ngam and Cung Oan, Nguyen Huy Tu, Nguyen Du, and the Kim Van Kieu, Nguyen Cong Tru, and the new poetry with the impact foreign poetry had on it. Prerequisite: 321 and 410.

424-2 Modern Vietnamese Drama. Hat boi (Vietnamese opera), Hat cheo (popular theater from North Vietnam), Cai Luong (modernized opera and musical), Thoai Kich (modern theater), and Kich tho (lyric theater). Emphasis on the main plays, the stage techniques, and the literary and social meaning of those various forms of Vietnamese theater. Prerequisite: 321 and 410.

430-3 to 6 (3, 3) Grammatical Structures. Detailed analysis of the structure of particular languages. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.

431-3 Structure of the English Verb. An analysis of the English verb system. Special study of the modals and non-finites. Elective Pass/Fail.

440-1 to 6 (1 to 3 per topic) Topics in Linguistics. Selected topics in theoretical and applied linguistics. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.

445-4 Introduction to Psycholinguistics. A broad spectrum introduction to psycholin-

guistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems, and language and the brain.

450-3 to 6 (3, 3) Language Families. A synchronic survey of particular language families or sub-families. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.

453-4 Methods in Teaching English as a Second Language. Introduces the basic methods of teaching English as a second language, specifically as part of bilingual programs, and presents the theoretical premises and background from the fields of general linguistics, contrastive linguistics, psycholinguistics, education, and sociolinguistics. Elective Pass/Fail.

454-2 Observation and Practice in TESL. Lessons in teaching English as a second language are modeled and demonstrated live and via video-tape. In addition to microteaching and other peer-teaching, students observe ESL/EFL classes and laboratories and do tutoring and practice teaching under supervision as schedulable. Enrollment limited to undergraduates. Mandatory Pass/Fail.

455-2 Materials in TESL. Examination and criticism of currently used textbooks in ESL and bilingual education programs, as well as other printed materials and visual and mechanical aids in teaching English as a second language. Prerequisite: 453 or consent of department. Elective Pass/Fail.

456-1 Contrastive Linguistics Practicum. Examination of the interference of other languages, particularly Spanish, into the English of ESL learners on the levels of phonetics, phonology, morphology syntax, lexicon, semantics, and orthography. Study of written and spoken errors, diagnosis of errors and development of techniques for correction. Prerequisite: 453 or consent of department. Elective Pass/Fail.

497-1 to 8 Readings in Linguistics. Directed readings in selected topics. Prerequisite: consent of department and undergraduate status.

501-3 Contrastive Linguistics. Theory and methodology of contrastive analysis and error analysis. Application of both methodologies to comparison of English syntactic and phonological structures with those of other languages. Prerequisite: 401 or consent of department.

504-3 Dialectology. Materials and methods of areal and social dialectology and linguistic geography. Prerequisite: one previous course in linguistics or consent of department.

506-4 Historical Linguistics. Theories and methods in the study of the history and prehistory of languages and language families.

Prerequisite: 405 and 408, or consent of department.

510-3 History of Linguistics. The history of linguistic inquiry from classical times to the present. Prerequisite: one previous course in linguistics or consent of department.

530-3 to 6 (3, 3) Historical Grammatical Structures. History of particular languages or language families. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department.

540-1 to 12 (1 to 3 per topic) Studies in Linguistics. Selected topics in theoretical and applied linguistics. May be repeated to a total of 12 hours of credit with consent of department. Maximum of six hours applicable toward a basic master's degree. Prerequisite: one previous course in linguistics or consent of department.

545-3 Advanced Seminar in Psycholinguistics. Relevant psycholinguistic research is studies in terms of research design criteria, appropriateness of statistical procedures, and practical applications for language teaching/learning and teacher training. Prerequisites: 445 and prior or concurrent registration in Guidance and Educational Psychology 506, or consent of department.

550-4 to 8 (4 per topic) Seminar in Linguistics. Guided advanced research in either syntax/semantics, generative phonology, socio-linguistics, psycholinguistics, historical linguistics, or other topics. May be repeated to a total of 8 hours of credit with consent of department. Prerequisite: consent of department.

570-4 Theory and Methods of EFL/ESL. Theory and methods of teaching English as a second or foreign language, techniques and procedures in teaching most language skills, comparative and current methodology.

571-2 Language Laboratories in EFL/ESL. The theory and practice of the language laboratory in EFL/ESL pedagogy. Prerequisite: 570 or consent of department.

572-2 Materials Preparation in EFL/ESL. Theory and practice in development of EFL/ESL texts. Prerequisite: 570 or consent of department.

575-3 EFL/ESL Testing. Discussion of different second language (L2) testing purposes characteristics of good. L2 tests, process of L2 test development, evaluation and revision of. L2 tests, interpretation and reporting of. L2 tests, results, current trends in L2 testing. Prerequisite: 445 and 570 or consent of department.

580-3 Seminar in Special Problems of EFL/ESL. Prerequisite: 570.

581-2 Practicum in EFL/ESL: Oral English. Class observation and supervised practice teaching in English as a foreign language; meets concurrently with Linguistics 100. Graded *S/U* only. Prerequisite: consent of department.

585-2 Practicum in EFL/ESL: Written

English. Objectives, methods, and materials for Linguistics 101, 102, and 103 and similar courses. Observation and practice under supervision. Graded *S/U* only. Prerequisite: consent of department.

593-1 to 4 Research in Linguistics. Individual research under graduate faculty guidance. Prerequisite: consent of instructor.

596-3 Stylistics. (See English 596.)

597-1 to 8 Readings in Linguistics. Individual readings in linguistics under graduate faculty guidance. Prerequisite: consent of department.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree. Prerequisite: consent of department.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Mathematics

400-2 History of Mathematics. An introduction to the development of major mathematical concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution of the function concept, and to the changes in the concept of rigor in mathematics from 600 B.C. Does not count toward a mathematics major in the College of Liberal Arts or in the College of Science. Prerequisite: 319 and 352 or consent of instructor. Elective Pass/Fail.

405-3 Intermediate Ordinary Differential Equations. Topics selected from linear systems, existence and uniqueness for initial value and boundary value problems, oscillation, and stability. Prerequisite: 251, 305. Elective Pass/Fail.

406-3 Eigenfunction Methods in Applied Mathematics. Inner product spaces; orthonormal systems; Bessel's inequality; quadratic forms; Hermitian operators; eigenfunctions and eigenvalues; minimization properties of eigenfunctions; the spectral theorem for a Hermitian matrix; functions of matrices; Sturm-Liouville differential operators; convergence properties of Fourier Series; the Legendre, Laguerre, Hermite, and Tchebycheff families of orthogonal polynomials; functions of Sturm-Liouville operator; Green's functions; the Laplacian operator in 1, 2, and 3 dimensions. Prerequisite: 221 and 305. Elective Pass/Fail.

407-3 Introduction to Partial Differential Equations. First order linear and quasilinear partial differential equations, characteristics, second order linear partial differential equa-

tions, classification of types, boundary value and initial value problems, well posed problems, the wave equation, domain of dependence, range of influence, Laplace's equation and Dirichlet problems, the maximum principle, Poisson's integral, fundamental solution of the heat solution. Prerequisite: 305. Elective Pass/Fail.

411-1 to 6 (1 to 3, 1 to 3) Mathematical Topics for Teachers. Variety of short courses in mathematical ideas useful in curriculum enrichment in elementary and secondary mathematics. May be repeated as topics vary. Does not count toward a mathematics major. Elective Pass/Fail.

412-3 Problem Solving Approaches to Basic Mathematical Skills. Content of basic skills at all levels of education and the development of these skills from elementary school through college; emphasis on problem solving and problem solving techniques; determination of student skills and proficiency level. Credit may not be applied toward degree requirements in mathematics. Prerequisite: 314 or equivalent.

417-3 Applied Matrix Theory. Matrix algebra and simple applications, simultaneous linear equations, linear dependence and independence of vectors, rank and inverses, determinants, eigenvalues and eigenvectors, quadratic forms, applications. This course may not be counted toward a graduate degree in mathematics. Prerequisite: 139 or 221 or consent of department. Elective Pass/Fail.

419-4 Algebraic Structures I. Groups, subgroups, normal subgroups and homomorphism theorems, permutation groups, finite direct products, finite abelian groups, p -groups and Sylow's theorem, normal and subnormal series, Jordan-Hölder theorem. Rings and subrings, divisibility theory in integral domain, polynomial rings. Prerequisite: 319 or consent of department. Elective Pass/Fail.

421-3 Linear Algebra. Fields, vector spaces over fields, triangular and Jordan forms of matrices, dual spaces and tensor products, bilinear forms, inner product spaces. Prerequisite: 221. Elective Pass/Fail.

425-3 Theory of Numbers. Properties of integers, primes, divisibility, congruences, quadratic forms, Diophantine equations, and other topics in number theory. Prerequisite: 319 or consent of department. Elective Pass/Fail.

426-3 Introduction to Mathematical Logic. (Same as Philosophy 426.) General introduction to the method of mathematical logic, forming of denials, the statement calculus including the deduction and completeness (with respect to truth tables) theorems, and the predicate calculus including the deduction theorem, deduction techniques; (in the predicate calculus) normal forms and equality, first order theories, first order number theory, consistency, truth (in the model-theoretic sense), completeness theorem (with respect to the model-theoretic definition of validity),

independence, categoricity, decidability, and a brief introduction to Gödel's theorem. Prerequisite: 301, 319, 352, or Philosophy 320. Elective Pass/Fail.

433-3 Introduction to Topology. Study of continuity, convergence, compactness, and completeness in the context of metric spaces. Prerequisite: 352 or consent of department. Elective Pass/Fail.

435-3 Elementary Differential Geometry. An introduction to modern differential geometry through the study of curves and surfaces in R^3 . Local curve theory with emphasis on the Serret-Frenet formulas; global curve theory including Fenchel's theorem; local surface theory motivated by curve theory; global surface theory including the Gauss-Bonnet theorem. Prerequisite: 251 and 221. Elective Pass/Fail.

437-3 Elementary Algebraic Topology. Topological spaces; continuous maps. Finite products. Connectivity. Compactness. Manifolds. Classification of surfaces. Homotopic maps. Fundamental group. Covering spaces. Lifting theorem. Prerequisite: 319. Elective Pass/Fail.

445-3 Boolean Algebra and Logical Design. (Same as Computer Science 445.) Boolean algebra with applications to computer logic and circuit design. Simplification algorithms. Sequential circuits and sequential machines. Introduction to error-correcting codes. Prerequisite: 319, 301 or Computer Science 342.

449-3 Combinatorics and Graph Theory. (Same as Computer Science 449.) An introduction to graph theory and combinatorial mathematics with computing applications. Topics include permutations and combinations, generating functions, recurrence relations, the principle of inclusion and exclusion. Polya's theory of counting, graph theory, transport networks, matching theory, block designs. Prerequisite: 301 or 319 or consent.

451-3 Introduction to the Theory of Computing. (See Computer Science 451.)

452-4 Advanced Calculus. Fundamental concepts of analysis; infinite series, functions and series of functions, uniform convergence, function of bounded variation, Riemann-Stieltjes integral, functions of several variables, implicit functions and extreme values. Prerequisite: 352 or consent of department. Elective Pass/Fail.

453-3 Topics in Applied Mathematics. (Same as Molecular Science 400M.) Selected topics in applied mathematics for students in the physical, biological, and engineering sciences: functions of several independent variables, Jacobians and implicit functions, Lagrange multipliers, Stokes theorem and the divergence theorem, initial and boundary value problems in ordinary and partial differential equations, approximate solution of initial value problems, Eigenfunction methods for solving boundary value problems. Does not count toward a mathematics major. Prerequisite: 251 or consent of instructor.

455-3 Introduction to Complex Analysis and Applications. Complex numbers, analytic functions, line integrals, the Cauchy-Goursat theorem and its implications, power series, Laurent series, polar and essential singularities, analytic continuation, contour integration, and residue theorem, conformal mapping, asymptotic expansions. Prerequisite: 251. Elective Pass/Fail.

457-5 Methods of Quantitative Analysis. (Same as Business Administration 451.) Introductory survey of basic quantitative methods necessary for graduate study in business; designed for students with deficiencies in methods of quantitative analysis. Course consists of introduction to calculus, matrix algebra, and probability. Extensive use is made of business examples. Prerequisite: enrollment in Master of Business Administration program or consent of instructor.

460-3 Transformation Geometry. Geometry as the study of properties invariant under congruences, similarities, affine transformations, and projectivities. Prerequisite: 221 and 319. Elective Pass/Fail.

471-3 Introduction to Optimization Techniques. (Same as Computer Science 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 221, 250, Computer Science 202.

472-3 Linear Programming. (Same as Computer Science 472.) Nature and purpose of the model. Development of the simplex method. Application of the model to various problems. Introduction to duality theory. Transportation and network flow problems. Postoptimality analysis. Prerequisite: 221 and Computer Science 202.

473-3 Reliability Theory. Formulation of the concept of reliability in terms of probability theory. Failure distributions and failure rates. Elements of renewal theory. Age and block replacement policies, optimal replacement policies for classes of failure distributions. Prerequisite: consent of department. Elective Pass/Fail.

475-6 (3, 3) Numerical Analysis. (Same as Computer Science 464.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Must be taken in a, b sequence. Prerequisite: 221, 250, Computer Science 202.

480-4 Introduction to Probability. This is a comprehensive introduction to probability theory at a level suited to most upper division undergraduates and first year graduate students. Topics include: event spaces, probability functions, combinatorics, generating func-

tions, conditional probability, independence, random variables, probability distributions, expectations, moments, characteristic functions, inversion formulae, sums of independent random variables, the multivariate normal distributions, the central limit theorem, the weak and strong laws of large numbers, Monte Carlo applications. Prerequisite: 251. Elective Pass/Fail.

481-3 Elements of Stochastic Processes. An introduction, including normal, Poisson, and Markov processes. Prerequisite: 480. Elective Pass/Fail.

483-4 Introduction to Mathematical Statistics. Development of the elements of statistical theory. Probability axioms, probability distributions, moments and moment generating functions. Statistical inference, point and interval estimation, testing hypotheses, regression and correlation, chi-square tests. Not for graduate credit in mathematics. Prerequisite: 250 and 221 or 250 and concurrent enrollment in 221. Elective Pass/Fail.

486-3 Design of Experiments. A mathematical model development of the statistical design and analysis of experiments with emphasis on practical applications. Includes completely randomized, randomized block, Latin square, split plot, incomplete block, and response surface designs, as well as factorial and fractional factorial experiments. Prerequisite: 483. Elective Pass/Fail.

487-3 Nonparametric Methods in Statistics. A discussion of confidence intervals and tests of hypotheses where no functional form is postulated for the population. Prerequisite: 483 or 480. Elective Pass/Fail.

488-3 Linear Statistical Models. Introduction to the general linear model, theory and applications. This will include discussions of regression, analysis of variance, analysis of covariance, and model building. Prerequisite: 221 and 483. Elective Pass/Fail.

489-3 Sample Survey Methods. Introduction to methods for sampling human populations, wildlife populations, and spatial distributions, and associated methods of data analysis. Emphasis will be given to criteria for choosing the appropriate sampling design and to the avoidance of nonsampling errors. Prerequisite: 483 or consent of instructor.

495-1 to 6 Special Topics in Mathematics. Individual study or small group discussions in special areas of interest under the direction of a member of the faculty. Prerequisite: consent of chairperson and instructor. Elective Pass/Fail.

501-3 Real Analysis. Structure of sets of real numbers; measure spaces; measurable functions; integration; modes of convergence; Caratheodory process; product measures; Fubini's theorem, Lebesgue measure and integral; differentiation; signed measures; Radon-Nikodym theorem. Prerequisite: 452.

505-3 Ordinary Differential Equations. Existence and uniqueness theorems; general properties of solutions; linear systems; geo-

metric theory of nonlinear equations; stability; self-adjoint boundary value problems; oscillation theorems. Prerequisite: 452 and 421 or consent of instructor.

506-1 to 9 Advanced Topics in Ordinary Differential Equations. Topics chosen from: stability; oscillations; functional differential equations; perturbations; limit point and limit circle; boundary value problems; other areas in ordinary differential equations as the instructor desires. Prerequisite: 505 or consent of instructor.

507-3 Partial Differential Equations. Origins of PDE's. The wave equation, potential equation, and heat equation. Initial and boundary value problems and questions of well posedness. Fundamental solutions and the related Riemann, Green, and Neumann functions. Classification of linear and quasilinear PDE's. Theory of characteristics. The Cauchy-Kowalawski theorem. The max-min principle, the energy-integral method, and questions of uniqueness. Questions of existence. Prerequisite: 452.

508-3 Integral Equations. Origins of integral equations. Volterra equations of the first and second kind. Fredholm equations of the first and second kind. Fredholm's alternative theorem. The resolvent equation. Orthonormal eigensystems of a symmetric Fredholm operator. The Hilbert-Schmidt expansion theorem and its applications to Sturm-Liouville problems. Exact and approximation methods of solution. Prerequisite: 452 and 406 or 421.

510-3 Mathematical Logic. Review of elementary logic; incompleteness and undecidability results of Godel, Church, and Tarski; consistency of arithmetic. Prerequisite: 426.

512-3 to 12 (3 per topic per semester) Topics in Mathematical Logic. (a) Model theory. (b) Axiomatic set theory. (c) Combinatory logic. (d) Proof theory. Student can take up to a maximum of twelve hours in combination of topics. Prerequisite: consent of instructor.

514-4 General Statistical Analysis. Concepts of probability; probability axioms, random variables, probability distributions, moments. Statistical estimation: criteria for estimators, sampling distributions of estimators, confidence intervals. Tests of significance: normal theory tests, power, robustness, nonparametric procedures. Relationships between purpose of experiment, experiment, data, and data analysis. This course does not give credit toward a mathematics major. Prerequisite: 111.

515-4 Linear and Multivariate Statistical Methods. Analysis of the general linear model: regression, analysis of variance, and analysis of covariance. Principal component analysis. Discriminant analysis. Analysis of the multivariate general linear model. Basic experimental designs and probability sampling procedures. This course does not give credit toward a mathematics major. Prerequisite: 514.

516-8 (4, 4) Statistical Analysis in the Social Sciences. (a) Descriptive statistics; graphic display of data; concepts of probability; statistical estimation, and hypothesis testing. Applications to social science data. (b) Matrix algebra; general linear model; multivariate statistics, ordinal and nominal measures of associations, and causal modeling. Applications to social science data. This course does not give credit toward a mathematics major. Prerequisite: one year of high school algebra or equivalent.

520-3 Algebraic Structures. Algebraic field extensions, splitting fields, algebraic closure, separable and unseparable extensions, the fundamental theorem of Galois theory, solvability by radicals. Tensor products of modules, finitely generated modules over principal ideal domain, applications to abelian groups, tensor algebras, exterior algebras, derivation, traces, and dual modules. Prerequisite: 419.

522-3 to 9 per topic (3, 3, 3) Advanced Topics in Algebra. (a) Ring theory: primitive rings, radicals, completely reducible rings, Artinian and Noetherian rings, projective and injective modules, complete ring of quotients, classic ring of quotients, Faith Utumi theorem. (b) Commutative algebra: ideal theory of Noetherian rings, valuations localizations, complete local rings, Dedekind domain. (c) Group theory: selected topics from one or more of the following: p-groups, solvable groups, simple groups. (d) Group representations: semisimplicity of the group algebra, characters, one dimensional representations, orthogonality relations induced characters, induced representations, Brauer's theorem. (e) Homological algebra: projective and injective modules, homological dimension, derived functors, spectral sequences of a composite functor, applications. (f) Lie algebras: theory of Nilpotent and solvable Lie algebras including Lie's and Engel's theorems; E. Cartan's classification of complex simple Lie algebras. Prerequisite: 520.

525-3 Number Theory. Introduction to modern analytic and algebraic techniques used in the study of quadratic forms, the distribution of prime numbers, diophantine approximations, and other topics of classical number theory. Prerequisite: consent of instructor.

526-3 to 9 per topic (3, 3, 3) Advanced Topics in Number Theory. (a) Analytic number theory. (b) Algebraic number theory. (c) Additive number theory. (d) Diophantine approximations. (e) Dirichlet series and automorphic forms. Prerequisite: consent of instructor.

528-3 Formal Languages and Automata. (Same as Computer Science 553.) Algebraic analysis of automata with emphasis on semigroup and decomposition theory. Probabilistic automata. Grammars including regular, context-free, context sensitive, and type 0. Normal forms, restricted grammars. Closure properties. The relation between grammars

and automata. Basic decision problems. Prerequisite: 451.

529-3 Theory of Computability. (See Computer Science 555.) Prerequisite: 451.

530-3 General Topology. Topological spaces, continuous functions, product topology, convergence, separation and countability, compactness, connectedness, local properties, metrizability, compact-open topology. Prerequisite: 433 or 437, 452.

531-3 Algebraic Topology. Simplicial complexes. Simplicial approximation. Chain complexes. Simplicial homology. Singular homology. Applications to spheres and Euclidean spaces. Universal coefficient theorem. Cohomology. Prerequisite: 419, 433, or 530.

532-3 to 9 per topic (3, 3, 3) Advanced Topics in Topology. (a) General topology: topics chosen from topological groups, categorical topology, topological dynamics, uniform spaces, and others. (b) Algebraic topology: topics chosen from homotopy theory, homology, and cohomology, fiber bundles, sheaf theory, and others. Prerequisite: consent of instructor.

536-3 Differential Geometry. Basic manifold theory, linear connections, Riemannian geometry, DeRham cohomology, applications. Prerequisite: 421, 433 or 435 or 530.

537-3 to 9 per topic (3, 3, 3) Advanced Topics in the Topology and Geometry of Manifolds. (a) Differential topology: topics chosen from Sard's Theorem, mod 2 and Brouwer degree. Index theory, Cobordism theory, Morse theory, Exotic Spheres, Poincaré duality and others. (b) Differential geometry: topics chosen from Hodge theory, complex manifolds, Riemannian geometry, connections on fiber bundles, Lie groups and others. (c) Topological manifolds; orientation of manifolds; cup and cap products; Poincaré duality; Alexander duality; Lefschetz duality.

550-1 to 6 per topic (1 to 3 per semester) Seminar. Supervised study and preparation of reports on assigned topics. Reports presented for class discussion. (a) Algebra. (b) Geometry. (c) Analysis. (d) Probability and statistics. (e) Mathematics education. (f) Logic and foundations. (g) Topology. (h) Applied mathematics. (i) Differential equations. (j) Number theory. (k) Master of Science seminar. Prerequisite: consent of instructor.

551-3 Introduction to Functional Analysis. Inner product and normed spaces; Hahn-Banach theorem; L^1 spaces; continuous function spaces; dual spaces; uniform boundedness principle; open mapping and closed graph theorems; fixed point theorems; spectral theorem. Prerequisite: 433, 501.

552-3 to 9 per topic (3, 3, 3) Special Topics in Analysis. (a) Harmonic analysis. (b) Approximation theory. (c) Advanced complex variables. Prerequisite: consent of instructor.

553-3 to 9 (3, 3, 3) Special Topics in Functional Analysis. (a) Topological vector spaces. (b) Operator theory. (c) Banach algebras. (d) Integration theory. (e) Distribution

theory. (f) Abstract harmonic analysis. Prerequisite: consent of instructor.

555-3 Complex Variables. Extended complex plane; Cauchy-Riemann equations: conformality; analytic continuation; power series; elementary functions; Cauchy integral theorem and consequences; Cauchy integral formula; maximum modulus principle; Liouville's theorems; Laurent expansion; residue theorem and evaluation of real integrals; principle of argument; Rouché's theorem. Prerequisite: 452.

560-3 Calculus of Variations. The basic problems of calculus of variations. The classical necessary conditions and their application. Canonical form of the Euler-Lagrange equations and Hamilton's principle. Fields and sufficient condition. Pontryagin's necessary condition and its application to control theory and to the classical problems of the calculus of variations. Prerequisite: 452.

567-6 (3, 3) Econometrics I and II. (Same as Economics 567.) (a) Linear regression analysis as applied to single equation economic models. Problems of least squares, maximum likelihood, and Bayesian estimation techniques in stochastic economic models. (b) Elements of asymptotic distribution theory and estimation techniques in multiple equation economic models. Take in a, b, sequence except with consent of instructor. Prerequisite: 417 or 421 and 483 or 514.

572-3 to 9 per topic (3, 3, 3) Advanced Numerical Analysis. (Same as Computer Science 564.) Selected topics chosen from such areas of numerical analysis as: approximation theory, numerical solution of initial value problems; numerical solution of boundary value problems, numerical linear algebra, numerical methods of optimization, functional analytic methods. Prerequisite: consent of instructor.

580-3 Statistical Theory. An introduction to mathematical statistics. Estimation theory including such topics as the Cramer-Rao and Chapman-Robbins inequalities, and the Rao-Blackwell theorem. Testing hypotheses with emphasis on the monotone likelihood ratio and the exponential family. A short introduction to Bayes and other decision procedures. Prerequisite: 480.

581-3 Probability. General probability spaces, review of measure and integration; product spaces, product measures, Fubini's theorem. Probability and random variables: induced measures, distribution functions, expectations, types of convergence, independence, characteristic functions. Sums of independent random variables: tail events and tail functions; Borel Cantelli lemma, zero-one law; Kolmogorov's inequality, convergence of series, the Strong Law of Large Numbers. Prerequisite: a concurrent course in real variables (501).

582-3 to 6 per topic (3, 3) Advanced Topics in Probability and Statistics. (a) Probability. Additional topics in probability theory which can include one or more of the following:

405-1 to 4 (1 to 2; 1 to 2) Medprep Physics Tutorial. Depending on individual need content will be remedial, supplementary to concurrent preprofessional physics courses or additional permitting acceleration. Sections will correspond to two semester physics sequence. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to medprep students.

Microbiology

403-2 Medical Bacteriology Lecture. A survey of the mechanisms of infection, epidemiology, and immunity and the specific application of these principles to the symptomatology, diagnosis, treatment, and control of the more common bacterial infections of humans. Two hours lecture. Fall semester. Prerequisite: 301.

404-2 Medical Bacteriology Laboratory. Procedures for the collection and handling of medical specimens for microbial examination and for cultivation and identification of the pathogenic organisms by their morphological, biochemical, and serological characteristics and the fundamental role of the bacteriologist in the diagnosis of infectious diseases. Four hours laboratory. Fall semester. Prerequisite: 403 or concurrent enrollment.

421-3 Foods and Industrial Microbiology Lecture. The relationships of microorganisms to the preparation and preservation of foods; their application to the industrial production of beverages, foods, antibiotics, and other commercial products. Consideration of sanitation, pollution, and recycling of waste products into useful materials. Pure food and drug regulations. Three hours lecture. Prerequisite: 301.

422-2 Foods and Industrial Microbiology Laboratory. Methods for preparation, preservation, sanitary inspection, and analyses of foods and industrial products. Four hours laboratory. Prerequisite: 421 or concurrent enrollment.

425-4 (2, 2) Biochemistry and Physiology of Microorganisms Lecture. Chemical composition, cellular structure, and metabolism of microorganisms. Prerequisite: organic chemistry.

426-4 (2, 2) Biochemistry and Physiology of Microorganisms Laboratory. Prerequisite: 425 a, b or concurrent enrollment.

441-3 Virology Lecture. General properties; classification and multiplication of bacterial and animal viruses; lysogeny; immunological and serological reactions; relation of viruses to cancer; consideration of selected viral diseases of animals. Prerequisite: 301 and 302.

442-2 Virology Laboratory. Tissue culture methods, multiplication and assay of animal and bacterial viruses, purification, electron microscopy, interference, immunity. Five hours laboratory. Prerequisite: 441 or concurrent enrollment.

451-3 Immunology Lecture. Natural and acquired immunity. Antigens, antibodies, and antigen-antibody reactions in vitro and in vivo. Three hours lecture. Prerequisite: 403.

452-2 Immunology Laboratory. Natural defense mechanism and immune response, preparation of antigens and antibodies, serological reactions, conjugated antibodies, electrophoresis, immunological reactions in vivo.

Five hours laboratory. Prerequisite: 451 or concurrent enrollment.

453-3 Clinical Microbiology and Immunology Lecture. Lectures dealing with the fundamentals and clinical applications of microbiology and immunology and the properties, pathogenesis and control of bacterial, viral, and mycotic infections in people. Three hours lecture. No limit on enrollment. Prerequisite: 403, 441, and 451.

454-2 Clinical Microbiology and Immunology Laboratory. Methods and procedures in the clinical diagnosis of microbiologic and immunologic diseases in people. Four hours laboratory. Enrollment limited to 12. Prerequisite: 404, 442, and 452, consent of instructor, and 453 or concurrent enrollment.

460-3 Genetics of Bacteria and Viruses Lecture. Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing, and reactivation phenomena. Three hours lecture. Prerequisite: 301.

461-3 Genetics of Bacteria and Viruses Laboratory. Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing, and reactivation phenomena. Six hours laboratory. Prerequisite: 460 or concurrent enrollment.

500-1 Seminar. Microbiology departmental seminar. Graded S/U only. Prerequisite: graduate standing.

504-3 Methods of Microbiological Research. Problem definition, experimental design, and research methods in specific areas of microbiology. Lecture and laboratory hours to be arranged.

505-1 Special Topics in Microbiology. Discussion of current research in specific areas of microbiology. One hour of group discussion per week. Prerequisite: consent of instructor.

511-1 to 7 Research. Prerequisite: consent of instructor.

520-2 Advanced Microbial Physiology and Control Mechanisms. The physiology, biochemistry, and genetics of microbial regulatory mechanisms. Topics include transport phenomena, catabolite and nitrogen repression, the stringent response, and autoregulatory phenomena. Two lectures per week. Prerequisite: 425a and b, or Chemistry 451a and b, or permission.

528-1 to 3 Readings in Microbiology. Supervised readings for qualified graduate students. Prerequisite: consent of instructor.

540-3 Advanced Virology. Interactions between bacterial and animal viruses and their host cells; sequential synthesis of macromolecular components of viruses; synthesis of interferon; experimental carcinogenesis; genetic recombination among viruses. Three hours lecture. Offered in alternate years with 542. Prerequisite: 441.

541-3 Advanced Virology Laboratory. Experiments to monitor synthesis of macromolecular components of viruses. Animal cell virology; tissue culture analyzed and practiced

in depth; karyotyping; viral growth and purification; aqueous polymer phase separation, ultracentrifugation, calcium phosphate chromatography, and phenol extraction techniques covered; biochemical analysis of viral macromolecules. Offered in alternate years with 543. Prerequisite: 540.

542-3 Molecular Virology. Interactions at the molecular level between tumorigenic and nontumorigenic DNA and RNA viruses and host cells, biochemical analysis of the growth cycle, uncoating, synthesis of virus-specified messenger RNA, enzymes and structural proteins, replication of viral nucleic acid and maturation. Three hours lecture. Offered in alternate years with 540. Prerequisite: 541.

543-3 Molecular Virology Laboratory. Characterization of viruses and their constituents; physicochemical properties, synthesis of nucleic acids and proteins; induction of release of viruses from transformed cells; differentiation of courses of viral components; studies of various species of nucleic acids by such methods as sedimentation velocity, ultracentrifugation, pulse and pulse chase experiment, and polyacrylamide gel electrophoresis. Offered in alternate years with 541. Prerequisite: 541.

551-3 Advanced Immunology. A lecture course that intensively considers the most recent developments in antibody structure, antigenic analysis and antigen-antibody reactions. A special focus will be on the use of immunology as a research tool. Prerequisite: 451 and 452, or equivalent, or consent of instructor.

562-3 Molecular Genetics. A lecture and discussion course emphasizing current research and new techniques in replication, transcription, translation, genome organization, gene flow from a general systems viewpoint and regulation. Prerequisite: 400-level course in genetics and in biochemistry or consent of instructor.

599-1 to 3 Thesis. Prerequisite: consent of instructor.

600-1 to 12 Dissertation. Prerequisite: consent of instructor.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Mining Engineering

400-3 Principles of Mining Engineering. Basic principles of mineral exploration, development, and processing. Environmental problems related to mineral development.

Prerequisite: junior standing in engineering or consent of instructor.

401-1 Mining Environmental Impacts and Permits. Socio-economic impacts of mining industry. Analyzing the markets for coal and its products. Mining operations and related environmental impacts. Mining permits. Prerequisite: 400 or consent of instructor.

410-3 Underground Mining Systems Design. Study of coal property evaluation. Underground mining methods. Design of mine production and its ancillary systems and subsystems. Prerequisite: 400, junior standing in engineering or consent of instructor.

411-2 Mine Machinery. Analysis and design of underground and surface mining machinery. Equipment and parts selection. System development. Preventive maintenance. Prerequisite: 410.

413-2 Mine Power Systems. Study of electrical, hydraulic, and pneumatic mine power systems. Selection and design of power systems and their components. Related economics and decision making criteria. Prerequisite: 410, and Engineering 385, or equivalent, or consent of instructor.

415-3 Surface Mining and Land Reclamation. Surface mining systems for coal and non-coal minerals. Development of mining operations, equipment selection, mine planning and design, land reclamation, erosion and sedimentation control. Prerequisite: 400, junior standing in engineering or consent of instructor.

420-3 Mineral and Coal Processing. Impurities in coal and their impact on the market. Impurities liberation and separation methods. Product preparation. Coal washability characteristics. Flow sheet development. Recovery of minerals from tailings, slurry ponds, and mine waste. Economics of mineral processing. Prerequisite: 400 or consent of instructor.

425-3 Mine Ventilation Systems Design. Study of the theories and practice of natural and forced mine ventilation. Fan and mine characteristics. Ventilation network analysis. Mine ventilation design and problem analysis. Prerequisite: 410, Engineering 313, or consent of instructor.

431-3 Rock Mechanics and Ground Control. Analysis of stress and strain, elementary elasticity, stress distribution around mine openings and pillars, engineering properties of rocks, support of mine workings, subsidence, design of mine openings. Laboratory. Prerequisite: 410, Engineering 311, or consent of instructor.

435-3 Operations Research and Computers in Mine Design. Mine systems analysis, operations research and statistics in decision making, production engineering, mine planning, optimization, linear programming, computer simulation. Prerequisite: 410, 415, Engineering 222, or consent of instructor.

440-2 Design of Material Handling Systems. Study of material handling and waste disposal methods. Material handling systems

selection. Systems design and development. Material handling economics. Prerequisite: 410 or consent of instructor.

455-2 Mine Health and Safety Engineering. Analysis of mine hazards and accidents, sealing and recovery of mines, design of mine emergency plans, safety methods, and health hazard control plans. Prerequisite: 410, 415, or consent of instructor.

470-2 Experimental Methods in Rock Mechanics. Supplement theoretical knowledge gained in 431 with laboratory experiments. Physical property tests for specific gravity, moisture, density porosity of rocks. Unconfined and confined compressive strength, tensile strength, shear strength, photoelasticity, static and dynamic strain measurement systems, field instrumentation techniques. Prerequisite: 431.

475-3 Design of Mine Excavations. Rock classification; design of shafts, slopes, tunnels, and underground chambers; support requirements; design of slopes; design of underground mining systems from ground control point of view; design of impoundments. Prerequisite: 431 or consent of instructor.

492-1 to 5 Special Problems in Mining Engineering. Topics and problems selected either by the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

511-3 Advanced Ground Control. Ground control in viscoelastic, plastic, and jointed rocks, artificial rock stabilization, in-situ stresses, minimizing structural damage due to subsidence, bumps, and rock bursts. Prerequisite: 431 or consent of instructor.

519-2 Advanced Mine Environment and Pollution Control. Study of the design of coal dust control plan; methane control. Design of mine illumination system, noise control, and water pollution control. Prerequisite: 410, 415.

530-3 Mine Management. Study of basic management principles, labor relations, and coal wage agreement. Costing methods and cost control. Operations organization and performance analysis. Prerequisite: consent of instructor.

535-3 Rock Fragmentation. Principles of rock fragmentation, cutting and drilling, mechanics of rock penetration, drillability indices, use of explosives in rock fragmentation, design of blasing patterns in surface and underground mines, prevention of airblast and noise due to blasting, chemical fragmentation. Prerequisite: 415, 431 or consent of instructor.

540-3 Production Engineering in Coal Mines. Operations analyses of production cycles in surface and underground coal mining systems, mine planning and design using computer models, computer simulation, economic analysis of mining systems. Prerequisite: 435 or consent of instructor.

550-1 to 3 Internship. Placement in an approved setting, e.g., at a mine or other

mining related operation. Required of all students in mining engineering. Prerequisite: graduate standing.

580-1 to 2 Seminar. Collective and/or individual studies in coal extraction or utilization.

592-1 to 5 Special Investigations. Special studies of coal extraction or utilization problems.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Molecular Science

592-1 Colloquy in Molecular Science. Required each semester of all resident students who have been admitted to advanced study in molecular science. Weekly conference on current research and recent literature of the field.

597-2 to 30 Selected Topics in Molecular Science. Prerequisite: admission to the molecular science doctoral program and consent of instructor.

598-2 to 16 Special Projects in Molecular Science. Prerequisite: admission to the molecular science doctoral program and consent of instructor.

600-1 to 36 (1 to 16 per semester) Dissertation. Hours and credit to be arranged by the chairperson. Prerequisite: admission to advanced study in molecular science.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Music

Courses in this department may require the purchase of music literature and other incidental supplies.

400-1 to 2 (1, 1) Performance Techniques. Individual instruction in any secondary applied field. Designed to provide added depth of preparation for teaching instrumental and vocal music. Prerequisite: completion of 340 level or the equivalent in some field of applied music.

407-2 Modal Counterpoint. Study of Renaissance contrapuntal techniques. Extensive writing practice, and analysis of stylistic models. Prerequisite: 207.

410-6 (3, 3) Ethnomusicology. (Same as Anthropology 410h, i). (h) Oceania, Asia, and Africa, (i) Middle East, Europe, and the New World.

414-1 to 8 (1 to 2 per semester) Collegium Musicum. For experienced singers and instrumentalists. Emphasis upon practical study of historical music literature of the Renaissance, and Baroque eras. Counts as a "major ensemble" for juniors and seniors.

420-1 to 2 (1, 1) Instrument Repair. A shop-laboratory course dealing with the selection, tuning, adjustment, maintenance, and repair of musical instruments.

421-2 Advanced Analysis. Structure, form, and design in music as the coherent organization of all of its factors. Analysis of works chosen from a variety of styles and genres. Prerequisite: 321.

430-1 Jazz Arranging. Methods of scoring for popular groups. Practice in scoring arrangements and/or original compositions for jazz ensembles. Prerequisite: 324 or prior consent of instructor.

440-1, 2, or 4 Applied Music. Applied music for graduate credit is offered at the 400 and 500 levels in the areas listed below. May be repeated for credit as long as passing grade is maintained. Student must be concurrently enrolled in one of the performance groups. Prerequisite: for 440, 540: two semesters of C or better at previous level, or consent of applied jury. Music majors and minors enroll for two credits on their principal instrument, taking one half-hour private lesson and studio class, Mondays at 10:00. Those with prior approval by their applied jury for the specialization in performance enroll for four credits taking two half-hour private lessons and the studio class each week. Non-music majors or minors, and those music majors taking a second instrument, enroll for one credit, taking one private or class lesson per week. Six hours of individual practice per week required for each lesson. For shorter terms, credit is reduced or lesson time is increased proportionately.

a. Flute	h. Trombone	o. String Bass
b. Oboe	i. Baritone	p. Voice
c. Clarinet	j. Tuba	q. Piano
d. Bassoon	k. Percussion	r. Organ
e. Saxophone	l. Violin	s. Harpsichord
f. Horn	m. Viola	t. Guitar
g. Trumpet	n. Cello	u. Recorder

447-4 (2, 2) Electronic Music. (a) Introduction to classical studio equipment and techniques; use of voltage controlled equipment. Individual laboratory experience available. (b) Emphasis upon creative projects, more sophisticated sound experimentation, and analysis. Enrollment limited. Must be taken in a, b sequence. Prerequisite: 280 or GSA 361 or consent of instructor.

453-2 to 4 (2 per semester) Advanced Topics in Choral Music. Practicum in the

selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.

454-2 to 4 (2 per semester) Advanced Topics in Instrumental Music. Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.

455-2 to 4 (2 per semester) Advanced Topics in Elementary School Music. Practicum in the selection and use of materials for the elementary school program. Study of techniques for achieving balanced musical growth. Designed for experienced teachers and advanced students.

456-4 (2, 2) Music for Exceptional Children. (Same as Special Education 456.) (a) Theories and techniques for therapeutic and recreational use of music with physically and mentally handicapped children. Includes keyboard, guitar, and tuned and untuned classroom instruments. (b) Applications for the gifted, emotionally disturbed, and culturally disadvantaged child. Take in sequence. Prerequisite: 302 or prior consent of instructor.

460-3 Music Aesthetics and Appreciation. The significance of music for people. Critical theories in the writings of philosophers of music and art from Plato through Dewey and Cage are related to principles and methods for communicating an understanding of music in schools and in society.

461-3 Applied Music Pedagogy. Specialized problems and techniques employed in studio teaching of any particular field of musical performance. Study of music literature appropriate for the various levels of performance. Opportunity, as feasible, for supervised instruction of pupils. Meets with appropriate instructor, individually or in groups.

468-2 to 4 (2, 2) Music Productions. Practicum in the techniques for staging operas and musicals.

472-2 Chamber Music Literature. A study of literature for the principal types of chamber music groups.

475-3 Baroque Music. The development of vocal and instrumental music in the period 1600-1750, from Monteverdi to Bach and Handel. Oratorio and Cantata, the influence of opera, sonata, suite, and concerto. Prerequisite: For undergraduate enrollment: 357 a or b. For non-music majors: prior consent of instructor.

476-3 Classical Music. Development of the sonata, symphony, concerto, and chamber music in the 18th and early 19th centuries, with emphasis on the music of Haydn, Mozart, and Beethoven. Prerequisite: For undergraduate enrollment: 357 a or b. For non-music majors: prior consent of instructor.

477-3 Romantic Music. Development of the symphony and sonata forms, chamber music, and vocal music in the 19th and early 20th

centuries. Rise of nationalism and impressionism. Prerequisite: For undergraduate enrollment: 357 a or b. For non-music majors: prior consent of instructor.

479-2 to 4 (2 per topic) Solo Performance Literature. Topics presented will depend upon the needs of students and upon instructors scheduled. Areas: (a) piano literature, including an introductory study of harpsichord music; (b) organ literature, in relation to the history of the instrument; (c) song literature; (d) guitar and lute literature; (e) solo string literature; (f) solo wind literature.

480-2 to 4 (2, 2) Advanced Composition. Original composition involving the larger media. Individual instruction. Prerequisite: 380-4.

481-1 to 4 Readings in Music Theory. Assigned readings and reporting of materials pertaining to a particular phase of music theory in historical perspective. Approximately three hour's preparation per week per credit (adjusted for shorter sessions). Prerequisite: 321 and 322 or prior consent of instructor.

482-1 to 4 Readings in Music History and Literature. Assigned readings and reporting of materials pertaining to a particular phase of history or literature. Approximately three hours of preparation per week per credit. Prerequisite: 357a and b, or prior consent of instructor.

483-1 to 4 Readings in Music Education. Assigned readings and reporting of materials pertaining to a particular phase of music education. Approximately three hours preparation per week per credit (adjusted for shorter sessions.)

498-2 to 4 (2, 2) Recital. Preparation and presentation of a full solo recital in any applied field. Prerequisite: prior or concurrent registration in 440 and approval of applied jury.

499-1 to 8 Independent Study. Original investigation of selected problems in music and music education with faculty guidance. Project planned to occupy approximately three hours preparation per week per credit (adjusted for shorter sessions). Prerequisite: prior consent of selected instructor.

500-1 to 6 Independent Investigation. An opportunity for the graduate student to investigate at an advanced level special interests outside the scope of normal course offerings. The student will select a member of the graduate faculty to guide and evaluate the work. Prerequisite: prior consent of the selected instructor and student's graduate adviser.

501-3 Music Bibliography and Research. Bibliographic materials for graduate study in music theory, history, education, and music performance. Approaches to historical and critical research and scholarly writing on music.

502-4 (2, 2) Analytic Techniques. Analysis of representative works chosen from the Baroque, Classical, Romantic, and Modern eras. Prerequisite: graduate standing in music or prior consent of instructor.

503-3 Scientific Evaluation and Research in Music. Quantified research concepts and vocabulary; measurement theory and techniques for evaluating and testing musical aptitude and achievement; investigation of acoustical perception; survey of current scientific research in music. A research project is required.

509-2 History and Philosophy of Music Education. The evolution of school music and its changing relationship to the individual, to society, and to the school curriculum.

535-2 Contemporary Idioms. An analysis of major compositional techniques since 1945.

540-1, 2, or 4 Applied Music. (See Music 440.)

545-3 Pedagogy of Music Theory. An orientation to the philosophy of theory with application to teaching techniques.

550-2 School Music Administration and Supervision. Study of the objectives and processes of music instruction. Administration roles in developing the means and ends of music instruction, and techniques employed for the improvement of instruction.

556-2 to 4 (2, 2) Advanced Conducting. Individual or group study with appropriate instructor of choral, orchestral, or band literature. Practice in score reading, baton technique, and interpretation. Opportunity to rehearse and conduct ensembles when feasible. Prerequisite: completion of an undergraduate conducting course with graduate standing in music, or consent of instructor.

566-1 to 12 (1 or 2 per semester) Ensemble. Regular participation, including accompanying, in any organized performing ensemble. One credit per group; maximum of two credits for concurrent participation in two groups.

567-1 to 8 Music Theater Workshop. For experienced singers, actors, dancers, and instrumentalists. Normally offered during summer as a fulltime course for eight credits, or partial credit for the orchestral players. Prerequisite: audition.

568-1 to 16 (1 to 8 per semester) Opera Workshop. Open to all experienced singers and stage technicians. Performs one major work and two or more excerpt programs per year. Normal registration is for two credits; four credits with permission for those with major roles; eight credits for full time summer workshop.

570-3 History of Opera. The development of the music, libretti, and staging of opera from the late Renaissance to the present, with a detailed study of selected works. Prerequisite: for non-music majors: prior consent of instructor.

573-3 Medieval Music. Music of the medieval world; Gregorian chant; the Tropes; secular songs of the troubadors and trouveres; the rise of polyphony; Ars Antiqua; organum and conductus; Ars Nova; Dunstable and English descant up to about 1450; types of notation. Prerequisite: for non-music majors: prior consent of instructor.

574-3 Renaissance Music. Burgundian and Netherlands music from 1450 and its spread; Isaac and Josquin; 16th Century polyphony in France, Germany, Spain, and England; the rise of music for instruments and for solo voices. Prerequisite: for non-music majors; prior consent of instructor.

578-3 Twentieth Century Music. The heritage of 20th century music. Study and analysis of musical philosophies and techniques of post-impressionist and contemporary composers. Prerequisite: for non-music majors; prior consent of instructor.

580-2 to 4 (2, 2) Graduate Composition. Composition in the larger forms for solo and ensemble performance. Required of all master's candidates specializing in composition. Individual instruction. Prerequisite: 480-4 or prior consent of instructor.

595-2 Music Document. A written report presenting the history and style of works performed in graduate recital, Music 598, or other topic relating to the student's principal performing area or independent study project. Prerequisite: 501 and approval of topic by the music graduate committee. On recommendation of the composition faculty and with graduate committee approval, a piece of music composed by the student for performance in Music 598 may be substituted, accompanied by a written analysis.

598-4 Graduate Recital. Preparation and presentation of a full solo recital in any area of performance; or the preparation, rehearsal, and conducting of a full ensemble program or of the equivalent sections of several ensemble programs. Prerequisite: completion of at least four credits in 540 (or 556 for conductors) and the approval of the performance jury. The performance jury certifies the acceptability of the completed recital and the grade to the graduate committee.

599-2 to 6 Thesis. An intensive written study in the history, theory, teaching, or philosophy of music; or the manuscript and parts (with tape recording when feasible) of a substantial musical composition or series of compositions accompanied by an analytical or explanatory document. Prerequisite: 501 and prior approval of topic or proposal by thesis director and graduate committee in music.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Philosophy

400-3 Philosophy of Mind. An investigation of the philosophic issues raised by several competing theories of mind, focusing on the fundamental debate between reductionistic accounts (e.g., central state materialism, identity theories of the physical and mental) and views which reject such proposed reductions. Traditional and contemporary theories will be examined. Designed for students in the life and social sciences with little or no background in philosophy as well as philosophy students. Elective Pass/Fail.

415-3 Logic of Social Sciences. (Same as Sociology 415.) Logical and epistemological examination of the social sciences as types of knowledge. Basic problems in philosophy of science with major emphasis upon social science: relationship of theory to fact, nature of induction, nature of causal law, testability, influence of value judgments, etc. Intended for students with considerable maturity in a social science or in philosophy. Elective Pass/Fail.

420-3 Advanced Logic. Study of topics in logical theory and/or formal logic not treated in 320. Prerequisite: 320. Elective Pass/Fail.

425-3 Philosophy of Language. (Same as Speech Communication 465.) Introduction to basic problems in the philosophy of language, including alternative theories of meaning and reference and the relation between meaning and intention. Elective Pass/Fail.

426-3 Introduction to Mathematical Logic. (See Mathematics 426.)

435-4 Scientific Methods. Critical survey of influential descriptions of scientific method, with emphasis on natural sciences. Topics include statistical and inductive probability, crucial experiments, explanation and prediction, interpretation of scientific terms and sentences, role of reasoning in discovery, and value judgments in research. Elective Pass/Fail.

441-4 Philosophy of Politics. (Same as Political Science 403.) Some of the central problems of modern political life, such as sovereignty, world government, authority and consent, the relations of economics and social studies to political theory. Prerequisite: 340 or GSC 102 or consent of instructor. Elective Pass/Fail.

443-4 Philosophy of History. Classical and contemporary reflections on the nature of history and historical knowledge as the basis for dealing with the humanities. Prerequisite: consent of instructor. Elective Pass/Fail.

446-3 Philosophical Perspectives on Women. Survey of five different views of the relation of the concept of women to the philosophical concept of human nature. Elective Pass/Fail.

460-4 Philosophy of Art. The definition of art, its relation to science, culture and morals; the various types of art defined. Familiarity

Occupational Education

(See vocational education studies)

with at least one of the fine arts is assumed. Elective Pass/Fail.

470-6 (3, 3) Greek Philosophy. (a) Plato; (b) Aristotle. Prerequisite: 304 or consent of instructor. Elective Pass/Fail.

471-4 Medieval Philosophy. Prerequisite: 304 or consent of instructor. Elective Pass/Fail.

472-4 The Rationalists. Study of one or more of the following: Descartes, Malebranche, Spinoza, Leibniz, Wolff. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.

473-6 (3,3) The Empiricists. (a) Locke; (b) Hume. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.

474-9 (3, 3, 3) 19th Century Philosophers. (a) Kant; (b) Hegel; (c) Marx. Prerequisite: 306 or consent of instructor.

475-3 Chinese Philosophy. Confucianism, Taoism, or Buddhism. Emphasis on comparison of philosophy East and West. Elective Pass/Fail.

477-4 Latin American Philosophy. A survey of philosophic thought in Latin America from colonial times through 19th century positivism and the reactions against it, up to recent trends. Reading or original texts in English translation. Discussions and reports. Elective Pass/Fail.

478-4 Latin American Thought. Elective Pass/Fail.

482-3 Recent European Philosophy. Philosophical trends in Europe from the end of the 19th Century to the present. Phenomenology, existentialism, the new Marxism, structuralism, and other developments. Language, history, culture, and politics. Elective Pass/Fail.

486-3 Early American Philosophy. From the Colonial period to the Civil War. Elective Pass/Fail.

487-3 Recent American Philosophy. Thought of realists, idealists, and pragmatists, such as Royce, Santayana, Peirce, James, Dewey, and others. Elective Pass/Fail.

490-2 to 8 Special Problems. Hours and credits to be arranged. Courses for qualified students who need to pursue certain topics further than regularly titled courses permit. Special topics announced from time to time. Students are invited to suggest topics. Prerequisite: consent of department.

491-1 to 3 Undergraduate Directed Readings. Supervised readings for qualified students. Open to undergraduates only. Prerequisite: consent of instructor.

496-2 to 4 Independent Studies in Classics. (See Classics 496.)

500-3 Metaphysics. Recent writers and current problems in metaphysics.

501-3 Philosophy of Religion. Analysis of a problem in philosophical theology or the phenomenology of religion, or of the work of a particular thinker.

503-3 Philosophical Ideas in Literature. Metaphysical and ethical world views embodied in representative classics of poetry and prose from ancient to contemporary times.

512-3 Philosophy of Culture. Forms and assumptions of Eastern and Western philosophies.

515-3 Theory of Nature. Presuppositions of the Western view of nature, the need for revision of causal determinism, and the reintroduction of freedom into the spatiotemporal world.

524-6 (3, 3) Analytic Philosophy. Analytic philosophy of people such as Austin, Ryle, Ayer, Carnap, G. E. Moore. (a) Early. (b) Recent.

528-3 Social and Economic Philosophy. An examination of classical and contemporary texts of social, political, and economic theory, concentrating on epistemology and methodology and the socio-economic context of social thought.

530-3 Theory of Knowledge. A contemporary writer or problem in epistemology. Emphasis on problem of reliability and structure of scientific knowledge.

531-3 Whitehead. Study in depth of a selected aspect or problem in Whitehead's philosophy.

542-3 Political and Legal Philosophy. Relations of law, morality, and politics, and consideration of problems and issues in philosophy of law.

545-3 Ethics. Recent British and American ethical theory.

550-3 Theory of Value. General theory of value or treatment of one or more philosophers on contemporary problems of value.

560-3 Aesthetics. Selected topics or writings.

562-3 Philosophy of Human Communication. (See Speech Communication 562.)

570-3 American Idealism. One or more American idealists. Recent seminars have been devoted to the thought of Brand Blanshard and Peter A. Bertocci.

575-3 to 9 (3 per topic) Contemporary Continental Philosophy. Topics in phenomenology, existentialism, and structuralism as developed from Husserl to Derrida. May be repeated as the topic varies.

577-6 (3, 3) Pragmatism. (a) Peirce and Dewey. (b) James and Mead.

581-3 Plato. Through study of selected dialogues and reconstruction of Plato's system as a whole. Discussions and reports.

582-3 Aristotle. Intensive reading on several texts, analyzing selected portions of Aristotle's thought.

587-3 Kant.

588-3 Hegel.

590-2 to 12 (2 to 4 per topic) General Graduate Seminar. Selected topics or problems in philosophy.

591-1 to 16 Readings in Philosophy. Supervised readings for qualified students. Prerequisite: consent of instructor.

595-2 Teaching Philosophy. Study of the methods appropriate to teaching introductory courses at the college level in the various areas of philosophy.

599-2 to 6 Thesis. Minimum of four hours to be counted towards a master's degree.

600-3 to 32 (3 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Physical Education

Courses in this department may require the purchase of supplemental materials.

400-3 Evaluation in Physical Education. Historical background of measurement in physical education; selection and evaluation of contemporary testing devices (predominantly tests of motor skill); structure and use of tests; administering the testing program; and statistical manipulation and interpretation and application of results.

402-2 Organization and Administration of Intramural and Extramural Activities. Planning intramural programs of sports. Planning and coordinating extramural activities commonly associated with physical education.

403-2 Developmental Movement Experiences Designed for the Special Child. Movement performance as applied to children of special populations. Study of movement theory and its application to developmental needs and motor-perceptual performance.

404-2 The Teaching of Sports. Principles of learning applied to selected sports; progressions, teaching methods, and related summaries of research.

407-2 Advanced Theory and Techniques in the Prevention and Rehabilitation of Athletic Injuries. The application of scientific principles to the theoretical and practical methods of preventing and treating athletic injuries.

408-2 Physical Fitness: Its Role and Application in Education. An analysis of physical fitness as it relates to the total well-being of people. Specific units on the fitness parameters, hypokinetic disease and physical inactivity, stress, current level of fitness, training programs, and the beneficial aspects of regular exercise. Major emphasis is placed upon incorporating current thinking on physical fitness into the development of teaching models.

409-3 Social Aspects of Sport and Physical Activity. This course presents an analysis of the social implications of sport on society

and includes consideration of sports in relation to sexual identification, women, minority groups, politics, political activism, social deviance, and other related areas.

410-3 Behavioral Foundations of Coaching. Behavioral problems of the athlete and the coach and possible solutions to such problems. Application of behavioral principles and theories as a basis for understanding the interaction between coach and student in the athletic environment.

415-1 to 6 (1 per topic) Workshop in Sports. A concentrated experience in the latest theories and techniques of selected sports activities. Emphasis is placed on individual and team drills, instructional materials and improved teaching methods. One semester hour for each workshop. A total of four hours only of such workshop experience may be credited toward the master's degree. Workshop titles are: (a) baseball, (b) basketball, (c) field hockey, (d) football, (e) gymnastics, (f) soccer, (g) softball, (h) swimming, (i) track and field, (j) volleyball, (k) tennis, (l) athletic training.

416-3 Current Theories and Practices in the Teaching of Dance. Designed to aid a critical evaluation and analysis of dance as an educational tool, from creative dance for children through dance in the University curriculum. Specific techniques, creative ideas, class organization, and general evaluation will be included. Notebook required. Prerequisite: four semesters of dance technique.

418-2 Administration of Aquatics. The study of comprehensive aquatic programs, their implementation and coordination.

420-3 Physiological Effects of Motor Activity. The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system. Requires purchase of laboratory manual. Prerequisite: GSA 209 or equivalent.

444-2 to 6 Contemporary Dance Workshop. Dance technique and theory, composition, improvisation, and production. Advanced study of the problems of choreography and production in their presentation as theater. Public performance is required. Prerequisite: one year of technique and theory or equivalent.

493-2 to 4 Individual Research. The selection, investigation, and writing of a research topic under supervision of an instructor. (a) dance, (b) kinesiology, (c) measurement, (d) motor development, (e) physiology of exercise, (f) history and philosophy, (g) motor learning, (h) psycho-social aspects. Written report required. Prerequisite: consent of adviser and department chairperson.

494-2 (1, 1) Practicum in Physical Education. Supervised practical experience at the appropriate level in selected physical education activities in conjunction with class work. Work may be in the complete administration of a tournament, field testing, individual or group work with special populations, administration

of athletics or planning physical education facilities. Prerequisite: consent of adviser.

500-3 Techniques of Research. Study of research methods and critical analysis of research literature specifically applied to the areas of motor performance and exercise. Prerequisite: consent of adviser in the Department of Physical Education.

501-3 Curriculum in Physical Education. Principles and procedures for curriculum construction and revision; criteria for selecting activities and judging outcomes and the place of the physical education course of study within the total curriculum.

503-2 Seminar in Physical Education. Making a systematic analysis of problems and issues encountered in the conduct of physical education. Selection of a problem or issue that is a concern to physical education and suggestion of solutions.

505-2 to 6 (2 per topic) Topical Seminar in Physical Education. Students may concentrate on different topics each semester dependent upon both the interests of the students and the expertise of the graduate faculty. Prerequisite: consent of instructor.

506-2 Topical Seminar in the Assessment of Motor Performance. Topics of importance in the techniques of assessment and in the understanding of the structure within the motor domain will be presented, studied, and discussed. Opportunity will also be provided for the individual to pursue the study of a special interest area. Prerequisite: 400 or consent of instructor.

508-2 Administration of Athletics. Designed to present a broad view of the role of athletics in its relationship to the total educational program, and to examine current practices in athletic management which operate within a framework of recommended policies and rules which govern athletics.

510-2 Motor Development. Early patterns of motor behavior and the development of physical skills in childhood. The development of physical abilities during adolescence. Individual differences in motor proficiency and factors affecting the acquisition of motor skills. Concepts of motor development with inferences for improving instructional practices.

511-2 Analysis of Human Physical Movement. Basic human movements as performed by individuals of different ages analyzed. Understanding of movement mechanics at varying levels of skill analyzed. Additional material required. Prerequisite: 303 or equivalent.

512-2 Biomechanics of Human Motion. Methods of data collecting and analyzing the biomechanics of human motion under normal and pathological conditions are covered. Students complete a biomechanical study for a one segment motion.

513-3 Perceptual Motor Learning of Physical Skills. Principles of learning applied to motor performance. Variables that affect learning of physical skills.

515-3 Body Composition and Human Physical Performance. Physical dimensions of the human body as they influence motor performance and are modified by protracted physical exercise. Prerequisite: 420 or equivalent.

517-2 Athletic and Physical Education Facilities Design, Construction, and Maintenance. Basic principles of design, construction, and maintenance of athletic and physical education facilities based upon program characteristics and potential student enrollment. Emphasis on the development of new materials and trends toward new concepts of design and construction. Prerequisite: 357 or equivalent.

520-3 Metabolic Analysis of Human Activity. Metabolic principles pertinent to human physical performance with emphasis on sport, exercise, and occupational activity analysis. A detailed study of oxygen utilization, oxygen debt, mechanisms of oxygen transport as they relate to physiological homeostasis in localized and total body motor activity. Emphasis on the laboratory study of aerobic and anaerobic performance. Prerequisite: 420 or equivalent.

530-2 Seminar in Research in Motor Performance. Special problems in research design in motor performance, review of research in depth on topics of specific interest, presentation and evaluation of research proposals. Required for Ph.D. candidates. Prerequisite: 500 or equivalent and consent of instructor.

590-1 to 4 Readings in Physical Education. Supervised readings in selected subjects. Prerequisite: consent of adviser and department chairperson.

592-3 Research Projects in Physical Education. Planning, conducting, and reporting original research studies. Four copies of paper required. Graded S/U only. Prerequisite: 500 or equivalent, consent of adviser.

599-3 to 6 Thesis. Prerequisite: 500 or equivalent.

600-1 to 32 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Physics and Astronomy

401T-1 Mechanics. Same as first half of Physics 401.

410-3 Mechanics II. Lagrange's equations,

mechanics of continuous media, inertia and stress tensors, rotation of rigid bodies, small vibrations, and advanced principles. Prerequisite: 310 or consent of instructor. Elective Pass/Fail.

415T-2 Modern Physics. Same as 415B and second half of 430, offered during the second half of the fall semester (415A-3 quarter hours plus 415B-two semester hours equals 430-four semester hours).

420-3 Electricity and Magnetism II. Induced electromotive force, quasisteady currents and fields, Maxwell's equations, electromagnetic waves and radiation, with applications. Prerequisite: 320 or consent of instructor. Elective Pass/Fail.

424-3 Electronics. Electronic circuit analysis and design principles, basic transistor circuits for amplification; op-amps; feedback; integrated circuits; power supplies oscillators; modulation and detection; electronic switching and basic digital electronics. Prerequisite: 324 or consent of instructor. Elective Pass/Fail.

425-3 Solid State Physics I. Structure of a crystalline solid; lattice vibrations and thermal properties; electrons in metals; band theory; electrons and holes in semiconductors; optoelectronic phenomena in solids; dielectric and magnetic properties; superconductivity. Prerequisite: 310, 320, 345, and 430 or consent of instructor. Elective Pass/Fail.

428-3 Modern Optics. Advanced course in modern optics covering such topics as interference and interferometers, diffraction, coherence, holography, optics of solids, laser and non-linear optics; recent developments in optical instrumentation for research. Prerequisite: 328 and 420. Elective Pass/Fail.

430-3 Quantum Mechanics I. An introduction to quantum mechanics including its experimental basis and application in atomic physics. Prerequisite: 310 and 320. Elective Pass/Fail.

431-3 Atomic and Molecular Physics I. Atomic spectra and structure; molecular spectra and structure; application to lasers. Prerequisite: 205c, 430. Elective Pass/Fail.

432-3 Nuclear Physics I. Basic nuclear properties and structure; radioactivity, nuclear excitation, reactions, nuclear forces; fission and nuclear reactors; controlled nuclear fusion. Prerequisite: 430. Elective Pass/Fail.

445-3 Statistical Mechanics I. An introductory course in the principles and applications of classical and quantum statistical mechanics. Elementary kinetic theory of matter. Prerequisite: 340 and 430 or concurrent enrollment. Elective Pass/Fail.

450-1 Modern Physics Laboratory. Introduces the student to experimental research and encourages the student to develop and carry out experiments. Prerequisite: 205c, either of 350 or 351, or consent of instructor. Elective Pass/Fail.

460-8 (4, 4) Physical and Applied Acoustics. Coordinated lecture and laboratory study in acoustical phenomena. Topics include vibration analysis, wave mechanics, two and three dimensional propagation and applica-

tions in physics, materials science, engineering, architecture, music, and environmental science. Emphasis on laboratory and field technique with modern computer analysis. Prerequisite: 301 or Mathematics 305 or concurrent enrollment. Elective Pass/Fail.

470-1 to 3 Special Projects. Each student chooses or is assigned to definite investigative project or topic. Prerequisite: 310, 320. Elective Pass/Fail.

480-3 Topics in Classical Physics. Assists experienced teachers to improve their understanding of classical physics and the strategy of presenting it. Emphasis on demonstration of phenomena as basic strategy in the introduction to new material. Attention given to the design of demonstration apparatus. Related laboratory experience is an integral part of the course. Prerequisite: consent of department. Elective Pass/Fail.

481-3 Topics in Modern Physics. Assists experienced teachers to extend their understanding of modern physics. Lectures and demonstrations aim at improvement of the means of presenting the ideas of modern physics. Related laboratory experience is an integral part of this course. Prerequisite: consent of department. Elective Pass/Fail.

482-2 (1, 1) In-Service Institute for Teachers of Physics. A series of lectures, demonstrations, discussions, and films to assist teachers of high school physics in meeting their classroom problems and responsibilities. Prerequisite: consent of department. Elective Pass/Fail.

500-6 (3, 3) Mathematical Methods in Physics. Vector spaces and operators in physics. Hilbert spaces and complete orthonormal sets of functions. Elements and applications of the theory of analytic functions. Methods for the solution of partial differential equations of physics. Prerequisite: Mathematics 407 or equivalent, consent of instructor.

510-4 Classical Mechanics. Generalized coordinates and forces. Lagrangian, Hamiltonian, and variational formulations of mechanics. Central forces, oscillations; normal modes of molecular systems. Prerequisite: 410.

511-3 Mechanics of Deformable Bodies and Fluids. Theory of stress, strain, and deformation in solids and the equations of flow in liquids and gases. Prerequisite: 510.

520-7 (4, 3) Electromagnetic Theory. Determination of static, electrostatic, and magnetostatic fields. Microscopic and macroscopic theory of insulators and conductors. Maxwell's equations; radiation, propagation and scattering of electromagnetic waves. Electrodynamics and special theory of relativity. Selected topics. Prerequisite: 420.

530-6 (3, 3) Quantum Mechanics II. Basic principles; the harmonic oscillator and the hydrogen atom; scattering; approximation and perturbation methods; spin, statistics. Prerequisite: Mathematics 406 or consent of instructor; 500 desirable.

531-6 (3, 3) Advanced Quantum Mechan-

ics. Quantum theory of radiation; applications of field theory to elementary particles; covariant quantum electrodynamics; renormalization; special topics. Content varies somewhat with instructor. Prerequisite: 530 and consent.

535-6 (3, 3) Atomic and Molecular Physics II. Recent experimental methods in atomic and molecular spectroscopy with applications. Detailed quantum mechanical and group theoretical treatment of atomic and molecular systems. Reactions between atomic systems. Prerequisite: consent of instructor.

545-6 (3, 3) Statistical Mechanics II. Principles of classical and quantum equilibrium statistics; fluctuation phenomena; special topics in equilibrium and non-equilibrium phenomena. Prerequisite: 445.

560-6 (3, 3) Nuclear Physics II. Fundamental properties and systematics of nuclei, scattering theory, nuclear two-body problem, nuclear models, nuclear many-body problem, electromagnetic properties of nuclei, radioactivity, nuclear reactions. Prerequisite: 530 and consent of instructor.

565-6 (3, 3) Solid State Physics II. Fundamental concepts in solid state physics. Lattice vibrations, band theory of solids, the Fermi surface, dynamics of electrons. Transport, cohesive, optical, magnetic, and other properties of solids. Prerequisite: consent of instructor.

570-1 to 4 Special Projects in Physics. Each student chooses or is assigned a definite investigative topic requiring resourcefulness and initiative. Prerequisite: consent of instructor.

571-6 (3, 3) X-Ray Diffraction and the Solid State. (See Engineering Mechanics and Materials 504.)

575-2 to 4 Selected Topics in Physics. Topics of special interest. Prerequisite: consent of instructor.

581-1 to 3 (1, 1, 1) Graduate Seminar. Lectures on special topics by students, faculty, or invited scholars; participation is required of all graduate students. For credit each student may present a seminar in the form of a lecture on a theoretical or experimental topic, a demonstration experiment, or apparatus critique. Prerequisite: lecturing experience or concurrent teaching

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Physiology

401-10 (5, 5) Advanced Human Anatomy. Dissection of the human body. Primarily for

students with a major in physiology or other biological sciences. Two hours lecture, six hours laboratory per week. Prerequisite: due to limited facilities, permission of the instructor is required.

402-5 (3, 2) Concepts of Anatomy. A detailed survey of human anatomy for pre-professional students with an interest in the biomedical disciplines, including radiographic, cross-sectional, and histological correlates. Three lectures per week fall semester, two lectures per week spring semester. Should be taken in a, b sequence. Not open to students who have had 401. Prerequisite: senior standing or consent of instructor.

410-10 (5, 5) Mammalian Physiology. Physical and chemical organization and function in mammals, with emphasis on the human. Physiology of blood and circulation, respiration, digestion, metabolism, excretion, endocrines, sensory organs, nervous system, muscle. Primary course for all students majoring in physiology or related sciences. Three lectures and two two-hour laboratory sessions per week. May be taken in any sequence. Prerequisite: college level chemistry and physics and at least junior standing.

411-4 (2, 2) Experimental Animal Surgery. (a) Covers animal care and preparation, anesthesia, etc; one lecture and one two-hour laboratory per week. (b) Provides training and practice in surgical procedures. Two two-hour laboratories per week. Must be taken in a, b sequence.

420-6 (3, 3) Principles of Pharmacology. Action of drugs and other chemical substances on the living organism; pharmacodynamics, chemotherapy, toxicology, and therapeutics. Pharmacologic action of analgesics, emetics and antimitotics; pharmacology of the nervous system; pharmacology of the muscles; antihistaminics; drugs that affect the eye; drugs that combat infectious diseases. Two lectures and one two-hour laboratory per week. May be taken in any sequence. Prerequisite: organic chemistry and basic courses in biology, or consent of instructor.

430-4 (2, 2) Cellular Physiology. The nature and mechanisms of function of the living cell. Chemical and physical analysis of function at the cellular level. Two lectures per week. Prerequisite: organic chemistry.

433-6 (3, 3) Comparative Physiology. Variations of physiological processes in animal phyla and comparison of these with human physiology. (a) Osmotic and ionic regulation; digestion, nutrition, and metabolism; excretion; respiration; defense and resistance. (b) Muscles and movement; circulation; nervous systems and sensory information; coverings and support; endocrine regulation; reproduction. Three lecture hours per week. Prerequisite: one year of biological science.

440-6 (3, 3) Biophysics. (a) Biomathematics, biomechanics and biotransport. (b) Bioelectrics and bio-optics applied to physiological problems. Three lectures per week. Prerequisite:

Mathematics 141 or equivalent; one year of college biological science including Physiology 210 or its equivalent; one year of college physics. May be taken in b,a sequence with consent of instructor.

460-2 Electron Microscopy. Lecture course designed to introduce the student to the theory and principles of electron microscopy. Two lecture hours per week. Prerequisite: senior standing or permission of instructor.

461-3 Biomedical Electronics. Practical experience with modern electronic circuits and devices used for biomedical purposes, with circuit construction and troubleshooting practice. Two lectures and one two-hour laboratory per week. Prerequisite: consent of instructor.

491-3 to 8 Independent Research for Honors. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Undergraduate honors students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.

492-1 to 3 Special Problems in Physiology. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Open to undergraduate students only. By special arrangement with the instructor with whom the student wishes to work.

500-1 to 6 (1 per semester) Advanced Seminar in Physiology. Presentation of research and current literature in physiology. Required of all graduate students in physiology. Graded *S/U* only.

520-3 Advanced Endocrinology. Analytical techniques and studies in the field of endocrinology; current knowledge of the endocrine glands and hormones. Two lectures and one two-hour laboratory per week. Prerequisite: advanced standing in chemistry (including organic chemistry) and biology.

530-3 Advanced Cellular Physiology. An advanced discussion of the following topics as they relate to the cell; release of energy, contractility, regulation and control of metabolism, electrical excitability, membrane transportation, water, and organelles. Prerequisite: 430, Chemistry and Biochemistry 450 or their equivalents.

531-2 Advanced Cellular Physiology Laboratory. One one-hour lecture and one three-hour laboratory per week, designed to be taken concurrently with 530. Basic experimental procedures used in studies in cellular physiology.

533-4 Advanced Comparative Physiology. Advanced concepts and techniques used in current studies in comparative physiology. Three lectures and one discussion period per week.

540-3 Advanced Biophysics. Survey of recent biophysical research with emphasis on historical development of current advances. Three lectures per week. Prerequisites: physiology 440 or its equivalent.

560-4 (2, 2) Physiological Techniques. (a)

Covers library research and basic laboratory methodology. (b) Covers *In Vivo* analytic instrumentation, BASIC programming and graphic techniques for physiology. Prerequisite: one year of biological science laboratory courses. Strongly recommended: one year of college physics; Mathematics 141 or equivalent. May be taken in b,a sequence with consent of instructor.

570-3 to 48 Advanced Physiological Topics. Studies of current research and literature in various topic areas of physiology. One or more of the following list of topic sections will be offered each semester, so that each section will be available once every two or three years. (a) Biological structure, (b) cardiovascular physiology, (c) respiratory physiology, (d) nerve-muscle physiology, (e) metabolism physiology, (f) gastrointestinal physiology, (g) neurophysiology, (h) radiation physiology, (i) environmental physiology, (j) biomathematics, (k) biomedical computing, (l) endocrinology, (m) animal care, (n) biophysics, (o) pharmacology, (p) special topics, (q) reproductive physiology, (r) renal physiology.

590-1 to 4 Readings or Research in Current Physiological Topics. By special arrangement with the instructor with whom the student wishes to work. Graded *S/U* only.

599-1 to 6 Thesis Research. Research for thesis for master's degree.

600-1 to 32 Dissertation Research. Research for dissertation for Ph.D. degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Plant and Soil Science

Field trips are required for certain courses. The School of Agriculture offers courses in plant and soil science as part of a residence-center program at Western Illinois University.

400-2 Trends in Agronomy. A discussion session format will be employed as a means of acquainting students with recent literature and allowing them to remain current with latest developments in their area of specialty. Prerequisite: senior standing.

405-3 Plant Breeding. Principles of plant breeding emphasized together with their application to the practical breeding of agronomic, horticultural, and forest plants. Field trip costs approximately \$10. Prerequisite: 305 or equivalent. Elective Pass/Fail.

408-3 World Crop Production Problems.

Ecological and physiological factors influencing production in various areas of the world. Natural limitations on world crop production. Non-agricultural factors influence world crop output. Prerequisite: 200. Elective Pass/Fail.

409-3 Crop Physiology and Ecology. The effects and significance of physiological and ecological parameters on crop yields. Prerequisite: Botany 320 or consent of instructor.

419-3 Forage Crop Management. Forage crop production and utilization; forage crop characteristics, breeding, and ecology; grasslands as related to animal production, soil conservation, crop rotation, and land use. Field trip costs approximately \$5. Prerequisite: Botany 200 or one course in biology or equivalent.

420-4 Crop Pest Control. Study of field pests of forest, orchard, field, and garden crops; pest control principles and methods; control strategy; and consequences of pest control operations. Prerequisite: introductory biology or crop science course and/or consent of department.

422-3 Turfgrass Science. Basic concepts of physiology, growth, and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special turf areas such as golf courses, athletic fields, and sod farms; and to the turfgrass industry. Field trips cost approximately \$15. Prerequisite: 240 and 322 or equivalent or consent of instructor.

423-3 Greenhouse Management. Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; and greenhouse heating and cooling systems. Field trips cost approximately \$5. Prerequisite: 220 or consent of instructor.

424-3 Floriculture. Production, timing, and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Field trip costs approximately \$25. Prerequisite: 423 or consent of instructor.

428-6 (3, 3) Advanced Landscape Design. Theory and principles of residential landscape design. Practice in drawing residential landscape plans. (a) Emphasis on arrangement of unit areas. (b) Emphasis on details of design and selection of plants. Prerequisite: 328-4 or consent of instructor.

430-4 Plant Propagation. Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds, cuttings, grafts, and other methods of propagation. Field trip costs approximately \$5. Prerequisite: 220.

432-4 Nursery Management. Principles and practices involved in the propagation, production, and marketing of ornamental landscape plant materials. Emphasis on plant production with field trips to various production areas costing approximately \$40. Prerequisite: 220 and 327a or consent of instructor.

434-3 Woody Plant Maintenance. Care

and management of ornamental shrubs and trees commonly used in the landscape. Topics to include trimming, pruning, fertilization, transplanting, and diagnosis of woody plant problems. Prerequisite: 327 or Forestry 201 and 202 or consent of instructor.

436-4 Fruit Production. Deciduous tree and small fruit growing, physiology, management practices, marketing. Prerequisite: 220 or consent of instructor.

437-4 Vegetable Production. Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Field trips cost approximately \$5. Prerequisite: 220 or consent of department.

441-3 Soil Morphology and Classification. Development, characteristics, and identification of soils; study of profiles; and interpretation and utilization of soil survey information in land use planning. Field trip costs approximately \$5. Prerequisite: 240 or consent of instructor.

442-3 Soil Physics. A study of the physical properties of soils with special emphasis on soil and water relationships, soil productivity, and methods of physical analysis. Prerequisite: 240.

443-3 Soil Management. The soil as a substrate for plant growth. Properties of the soil important in supplying the necessary mineral nutrients, water and oxygen, and for providing an environment conducive to plant root system elaboration. Soil management techniques that are important in optimizing plant growth. Prerequisite: 240. Elective Pass/Fail.

447-3 Fertilizers and Soil Fertility. Recent trends in fertilizer use and the implications of soil fertility build up to sufficiency and/or toxicity levels; the behavior of fertilizer material in soils and factors important in ultimate plant uptake of the nutrients; the plant-essential elements in soils and ways of assessing their needs and additions; tailoring fertilizer for different uses and management systems; implication of excessive fertilization in our environment. Prerequisite: 240; concurrent enrollment in 448 suggested. Elective Pass/Fail.

448-2 Soil Fertility Evaluation. A laboratory course designed to acquaint one with practical soil testing and plant analysis methods useful in evaluating soil fertility and plant needs. One hour lecture, two hours laboratory. Prerequisite: 240; 447 or concurrent enrollment; or consent of instructor.

454-4 Microbial Processes in Soils. A study of microbial numbers, characteristics and biochemical activities of soil microorganisms with emphasis on transformations of organic matter, minerals, and nitrogen in soil. Prerequisite: 240 or Microbiology 301; or permission of instructor.

468-3 Weeds-Their Control. Losses due to weeds, weed identification and distribution, methods of weed dissemination and reproduction, mechanical, biological, and chemical

control of weeds. State and federal legislation pertaining to weed control herbicides. Herbicide commercialization. Field trips cost approximately \$5. Prerequisite: an introductory biology course. Elective Pass/Fail.

518-3 Principles of Herbicide Action. Chemistry and mode of action of herbicides. Nature of herbicidal action. Illustrates the various types of chemical weed control procedures in current use. The physiology of herbicidal action examined using the different mechanisms established for various chemical groups of herbicides. Prerequisite: 468, Botany 320.

520-3 Growth and Development of Plants. Physiological control of developmental processes. Emphasis on exogenous growth-regulating compounds and their behavior in plants. Prerequisite: Botany 320 or consent of instructor.

524-2 Advanced Plant Genetics. (See Botany 524.) Prerequisite: Biology 305 or equivalent.

526-4 Cytogenetics. (See Botany 526) Prerequisite: Biology 306 and 306 or equivalent.

547-2 Soil-Plant Nutrient Relationships. A study of advanced topics relating to fertilizer and nutrient use efficiency by plants, including research methods for fertilizer use evaluation and plant response. Mechanisms in the soil for nutrient storage, release, fixation, and loss will be dealt with as they relate to efficient use by plants. Prerequisite: 447 or equivalent.

560-5 (3,2) Field Plot Technique. (a) Design of field plot and greenhouse experiments including appropriate statistical analyses for each of the designs. Data interpretation. Prerequisite: consent of instructor. (b) Each of the designs discussed in (a) will be illustrated with a type problem and solved by computer processes using primarily MINITAB and SAS software programs. 560a or concurrent enrollment, or consent of instructor.

581-1 to 4 (1, 1, 1, 1) Seminar. Individual presentations on subjects and problems relating to soils, field and horticultural crops, and other phases of plant and soil science. Graded S/U only.

582-6 (2, 2, 2) Colloquium in Plant and Soil Science. Recent developments and trends in specialized areas of plant and soil science will be discussed in (a) genetics and plant breeding, (b) research methods, (c) physiology and ecology.

588-1 to 8 International Graduate Studies. Residential graduate study programs abroad. Approval of department required both for the nature of program and number of hours of credit. Prerequisite: consent of department chairperson. Graded S/U only.

590-1 to 4 Readings. Contemporary books and periodicals on selected subjects within the fields of plant and soil science. Prerequisite: consent of department.

592-1 to 3 Special Problems. Directed study of specialized areas of crop production, horticulture, or soils depending on the program of

the student. Discussion, seminars, readings, and instruction in research techniques. Prerequisite: consent of department.

593-1 to 4 Individual Research. Directed research on approved projects investigating selected fields of plant and soil science. Prerequisite: consent of department.

599-1 to 6 Thesis. At least three hours of thesis credit is required for the master's degree under the thesis option. Prerequisite: consent of department.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Political Science

The Department of Political Science offers courses toward the Master of Arts degree and Ph.D. degree in political science and the Master of Public Affairs.

403-4 Philosophy of Politics. (See Philosophy 441.) Elective Pass/Fail.

404-3 History of Political Theory. Shall survey different theorists and perspectives which have contributed significantly to the development of the ongoing tradition of political theory up to modern times. Prerequisite: 303 or consent of instructor. Elective Pass/Fail.

405-3 Democratic Theory. An examination of various species and aspects of democratic thought, including the liberal tradition and its impact upon the United States. Prerequisite: GSB 212 or consent of instructor. Elective Pass/Fail.

406-3 Socialist Thought. An examination of socialist thought regarding social structure, economic institutions, and political power. Prerequisite: senior or graduate standing or consent of instructor. Elective Pass/Fail.

408-3 Contemporary Political Theory. Shall explore the theorists and perspectives which have contributed to contemporary views of the political world. Prerequisite: 303 or consent of instructor. Elective Pass/Fail.

413-3 Modern Federalism. The structure and function of federal systems of government with emphasis on recent revisions in American federalism and comparison of the American federal structure with federalism in other nations. Elective Pass/Fail.

414-3 Political Systems of the American States. The state level of government viewed with emphasis upon recent developments and

current research. Prerequisite: 213. Elective Pass/Fail.

415-3 Urban Politics. An examination of the environment, institutions, processes, and functions of government in an urban society with particular emphasis on current problems of social control and the provision of services in the cities of the U.S. Prerequisite: 213. Elective Pass/Fail.

416-3 Senior Seminar in Politics. Seminar for advanced undergraduate students to examine in depth a wide variety of topics; to be taught by different instructors. Available for use as the honors seminar. Graduate students not admitted. Prerequisite: 200 recommended. Elective Pass/Fail.

417-3 Political Psychology. An examination of various psychological theories as they relate to the development and change of political attitudes, leadership behavior, and mass political participation. Prerequisite: 200 recommended. Elective Pass/Fail.

418-3 Political Communications. (See Speech Communication 451.) Elective Pass/Fail.

419-4 Political Sociology. (See Sociology 475.)

428-3 Government and Labor. (See Economics 436.) Elective Pass/Fail.

429-3 Race, Ethnicity, and Politics. (Same as Black American Studies 445.) Analysis of race and ethnicity as significant variables in political life. Topics receiving attention include various forms of political participation, leadership behaviors, organizational development, political strategies, and the effect of law in producing social change. Comparative cross-national emphases will vary with the instructor. Prerequisite: GSB 212. Elective Pass/Fail.

433-8 (4, 4) Constitutional Law. (a) This, the initial course in a two-course sequence, will be concerned with the basic structure and power relationships in the American constitutional system and, in addition, will cover the 19th and early 20th century bulwarks of constitutional *laissez faire*, the contract clause and "substantive" due process. In brief, the course will cover judicial review, judicial restraint, separation of powers, the federal system, national powers, state powers, constitutional amendments, and restraints on economic powers, the contract clause and "substantive" due process. Prerequisite: GSB 212. Political Science 330 is recommended. Elective Pass/Fail. (b) This is the second course in the constitutional law sequence. The course will be wholly concerned with those provisions of the Constitution which protect individual rights and liberties against governmental encroachment. In brief, the course will cover constitutional provisions and case precedents relating to citizenship, freedom of speech, assembly, and association, freedom of religion, rights to persons accused of crime, protection against racial, ethnic, and other forms of discrimination, legislative appor-

tionment and the electoral process. Prerequisite: GSB 212. Elective Pass/Fail.

435-3 Judicial Process and Behavior. An examination of the process by which judges in both trial and appellate courts at federal and state levels are selected and of the ways in which they make decisions. Attention to the structure of the courts. Study of the communication and impact of judicial decisions. The course will provide some insight into the methods used to study judicial behavior. Elective Pass/Fail.

436-3 Administrative Law. The procedural law of public agencies, particularly the regulatory commissions but also executive branch agencies exercising regulatory functions. The exercise of discretion and its control through internal mechanisms and judicial review. Prerequisite: an ability to read court cases; 340 also preferred. Elective Pass/Fail.

437-3 Jurisprudence (Theories of Law). Major schools in legal thinking. Positive law and natural law. Idea of justice and concept of natural rights. Elective Pass/Fail.

441-3 Organization Theory. Analysis of various approaches to organizational theory and public administration with emphasis on recent American literature in this field. Prerequisite: 340 or consent of instructor. Elective Pass/Fail.

442-3 Public Personnel Administration. An analysis of some of the central problems encountered by the government executive in recruiting, maintaining, and developing personnel, such as political neutrality, leadership and motivation, career development, security regulations, and the role of personnel in policy planning and execution. Prerequisite: 340. Elective Pass/Fail.

443-3 Public Financial Administration. An examination of state and local government financial administration. Patterns in revenues and expenditures and administrative processes and problems are emphasized. Some of the topics covered are: (1) interstate variations in expenditures, (2) the property tax, (3) grants-in-aid and revenue sharing, and (4) municipal debt. Students conduct individual research and participate in computer based exercises. Prerequisite: none. 213 recommended. Elective Pass/Fail.

444-3 Policy Analysis. An examination of basic concepts in the policy sciences, approaches to policy analysis, applications to selected areas of policy, and instruments of policy development. Elective Pass/Fail.

445-4 Administration of Environmental Quality and Natural Resources. (Same as Geography 426.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decisionmaking at all levels of government—federal, state, and local—as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation-

including the National Environmental Policy Act, the Clean Air Act, and Water Pollution Control Act and the Surface Mining Reclamation Act. Elective Pass/Fail.

447-6 to 9 (3, 1 or 2, 2 to 4) Urban Planning. (See Geography 470a, b, c.) Elective Pass/Fail.

452-3 Politics of Developing Areas. A survey, theoretical and descriptive, of the impact upon politics of the process of development and the role of the governmental system in the direction and control of development. Elective Pass/Fail.

454-3 Comparative Urban Politics. Comparative analysis of urban political systems in the United States and other nations. Attention to the social environment, political structures, political processes, and public policies of selected urban areas. Prerequisite: none. 213 recommended. Elective Pass/Fail.

455-3 Comparative Public Administration. Administrative attitudes, behaviors, and institutions are compared on a topical basis in governments of Britain, Europe, the United States, Japan, and selected socialist, developing, and ancient states. Elective Pass/Fail.

457-3 Great Britain and the Commonwealth. The nature of the Commonwealth association and the politics of Great Britain and the "Old Commonwealth" countries: Australia, Canada, New Zealand. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

458-3 Governments and Politics of Europe. A comparative study of the political systems of the major countries of Western and Central Europe. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

459-3 Government and Politics of Soviet Russia. Dynamics of Soviet government and economy. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

461-3 Governments and Politics of Southeast Asia. Politics and governments of Burma, Thailand, Malaysia, Vietnam, Cambodia, Laos, Singapore, Indonesia, and the Philippines. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

462-3 Governments and Politics of Vietnam. Development of political groupings since the period of French domination. Role of the religious sects and the private armies. Constitution and the legal and political system of Vietnam. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

463-3 Government and Politics of China. Internal political, economic, and social development of China. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

464-3 Governments and Politics in the Middle East. Internal and international politics of the Islamic states of the Middle East and North Africa and Israel. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

465-3 Governments and Politics of Sub-Saharan Africa. (Same as Black American Studies 465.) An examination of the impact of western colonial rule on the societies and poli-

tics of Africa, the methods by which these colonial areas became sovereign states in the post-World War II era, the role of domestic political institutions, African political thought and behavior, and the development of foreign policies regarding relations with other African states, continental and international organizations, and non-African states. Prerequisite: 452 or GSB 250. Elective Pass/Fail.

466-4 Governments and Politics of Latin America. An in-depth analysis of specific problem areas in Latin American political processes as well as comparative study of selected Latin American nation-states. Prerequisite: none. 366 recommended. Elective Pass/Fail.

468-3 The Politics of National Defense. A comparative study of the growth of the relationship of the armed forces with the civilian sector of the body politic, the selection, training, and professionalization of the officer corps, the control of the armed forces by the executive and legislature, the growth of strategic doctrine, insurgency and counter-insurgency warfare, and the analysis of the role of the armed forces as a governing group in a large number of non-western states. Prerequisite: GSB 212 or 250 or Political Science 452. Elective Pass/Fail.

475-6 (3, 3) International Law. (a) Rules and practices governing the nations in their relations in peace and war. Prerequisite: none. GSB 270 recommended. (b) Investigation of special problems in international law. Prerequisite: 475a. Elective Pass/Fail.

477-3 The Making of American Foreign Policy. An advanced course dealing with the formulation and administration of American foreign policy. Prerequisite: none. GSB 378 recommended. Elective Pass/Fail.

480-3 International Politics. Definition and analysis of the concepts of spheres of hegemony, alliances, regionalism, integration, interdependence, and an evaluation of their application to contemporary international politics. The course will stress the need for the continuing evaluation of the vague role of national power and influence within the framework of a changing world environment. Elective Pass/Fail.

485-3 International Relations of the Far East. The political and strategic problems and the interplay of the foreign policies of the major powers in this area. Prerequisite: none. GSB 270 or History 380 recommended. Elective Pass/Fail.

488-3 International Relations of the Western Hemisphere. Emphasis on the international behavior of Latin American nation-states and/or regions especially related to policy trends and historical and contemporary objectives of the U.S. Prerequisite: none. GSB 270 recommended. Elective Pass/Fail.

494-1 to 6 Honors Research. Directed research for senior government honors students. Not for graduate students. Prerequisite: consent of instructor and chairperson. Stu-

dents must have at least a *B* average in political science.

500-2 Research Methods—Introduction. Selected topics concerning the philosophy of knowledge, empirical and normative analysis, and a survey of methods of data acquisition in political science. Primarily for master's degree students.

501-3 to 9 (3 per topic) Research Methods. (a) Experimental and quasi-experimental research design. The role of experimental and quasi-experimental research design in political science. Specific topics discussed include the logic of experimental control, principles of research design, threats to internal and external validity, and ethical considerations in experimenting with human beings. Prerequisite: Mathematics 516a or b or the equivalent. (b) Simulation. Analysis, design, construction, and evaluation of human, human-computer, and computer games and simulations for teaching, training, and research in political science. Prerequisite: Mathematics 516a or the equivalent. (c) Survey research and sampling. Basic concepts of sampling, sampling frames; types of sample design; survey designs, questionnaire construction, interviewing, coding, introductory survey analysis techniques, and ethical considerations in political science. Prerequisite: Mathematics 516a or the equivalent. (d) Causal modeling. Statistical techniques for the non-experimental investigation of causal systems. Logic of causal analysis, systems of simultaneous linear equations, causal modeling, path analysis, and structural equation models. Prerequisite: Mathematics 516a and b or the equivalent. (e) Theory and Methods of Scaling. (See Psychology 527.) (f) Theory building. Techniques of theory-building and typology construction. Probability theory; game theory; systems of differential equations; difference equation models; time series models; computer simulation models, and causal models. Criteria for evaluating internal and external validity for the best theory. Prerequisite: Mathematics 516a and b or the equivalent.

502-3 to 6 Topical Seminar in Research Methods. Advanced seminar in empirical research methods. Topics will vary with instructor. Prerequisite: consent of instructor.

503-3 Data Prepatation and Management. Covers the creation, dictionarying, cleaning, and management of data files using SPSS, SAS, OSIRIS, and the IMB OS/VS utility programs. Also treats the use of the IBM Job Control Language (JCL), the Conversational Monitor System (CMS), cataloged procedures, instream procs, and CMS EXEC's. A research tool course not to be counted toward graduate degree requirements. Prerequisite: Computer Science 202 or consent of instructor.

504-3 Pro-Seminar in Political theory. The course will survey a sampling of the best works from the broad and diverse spectrum of political theory. Normative, empirical, analytical, critical, and other types of theoretical works will be analyzed. The actual selections

may vary from year to year. The student is strongly urged to enroll in this course prior to enrolling in research seminars in political theory.

505-3 to 6 (3, 3) Topical Seminar in Normative Theory. Topic will vary with instructor. Student should see director of graduate studies for advanced syllabus.

508-3 to 6 (3, 3) Topical Seminar in Empirical Theory. Systems, structural-functional, conflict, decision-making, integration, organization, exchange, communications, democratic, totalitarian, change and revolution theories will be analyzed to determine their domain and predictive and/or explanatory capacities. Generally, half of these theories will be offered every other year. Prerequisite: consent of instructor.

510-3 Proseminar in American Politics. Designed to survey the major literature in the field of American government at the graduate level. The course will synthesize and integrate the literature and give an overview of topics that will be covered in greater depth in each subject-matter research seminar. Highly recommended for new teaching assistants.

511-3 to 6 (3, 3) Topical Seminar in American Politics. Topic will vary with instructor. Student should see director of graduate studies for advanced syllabus. Prerequisite: basic course, related training, or consent of instructor.

514-3 Seminar in American State Politics. Student should see director of graduate studies for advance syllabus. Prerequisite: 414 or consent of instructor.

515-3 Seminar in Urban Politics. Student should see director of graduate studies for advance syllabus. Prerequisite: 415 or consent of instructor.

516-3 to 6 (3, 3) Seminar in Political Behavior. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

518-3 Seminar in Political Parties. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

521-3 Seminar in the Legislative Process. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

538-3 Seminar in the Judicial Process. An examination of the literature on such topics as judicial selection, the impact of court decisions, court procedure, and the factors affecting the decision-making behavior of judges. Prerequisite: 433 or equivalent or consent of instructor.

540-3 Seminar in Public Management. An examination of the knowledge and skills required for public sector management positions. Particular emphasis is placed on developing the communication skills necessary for effective management, creating an awareness

of the nature of the political and administrative environment of the public manager, and examining basic ethical questions of public administration. Required of all MPA candidates. Prerequisite: 340 or equivalent or consent of instructor; 441 recommended.

541-3 Seminar in Applied Problems of Public Administration. Study of selected problems in public administration and policy. Emphasis placed on the practitioner's perspective. Prerequisite: 441 or consent of instructor.

542-4 Public Budgeting and Fiscal Management. An examination of the theory and practice of budgeting in the public sector and of selected elements of fiscal management. The course focuses on administrative aspects of budgeting and is oriented toward preparation of students for careers in the public service. Approaches and techniques in revenue forecasting, program planning, and performance measurement are included. Students utilize primary materials in conduction individual or class projects aimed at development of budgetary skills. Required of all MPA students. Prerequisite: 340 or equivalent or consent of instructor.

544-3 Program Evaluation. An examination of approaches and problems in the evaluation of governmental programs. Emphasis is placed upon the use of analytical techniques to determine program impact and the use of evaluation in governmental decision making. Required of all M.P.A. candidates. Prerequisite: Mathematics 516a or Guidance and Educational Psychology 506 or the equivalent.

547-6 (3,3) Topical Seminar in Public Administration. (a) Devoted to selected techniques and tools of public administration; (b) in-depth study of selected problems in the process and environment of public administration.

550-3 Proseminar in Public Administration. A survey of the major literature in the field of public administration. The course will synthesize and integrate the literature and provide an overview of topics to be covered in greater detail in other seminars. Prerequisite: 340 or equivalent or consent of instructor.

560-3 Pro-Seminar in Comparative Politics. A survey of the major literature in the field at the graduate level. The course will synthesize and integrate the literature and give an overview of topics that may be covered in greater substantive depth in each subject matter seminar in comparative politics. The student is strongly urged to enroll in this course prior to enrolling in research seminars in comparative politics.

568-3 Seminar in Comparative Analysis. Development and evaluation of appropriate approaches, theories, research designs, and data gathering and analysis techniques for studying a variety of macro and micro level, cross-cultural and cross-level comparative research problems.

569-3 to 6 (3, 3) Topical Seminar in Comparative Politics. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, and consent of instructor.

570-4 Pro-Seminar in International Relations. A survey of the major literature in the field at the graduate level. The course will synthesize and integrate the literature and give an overview of topics that may be covered in greater substantive depth in subject matter seminars in international relations. The student is strongly urged to enroll in this course prior to enrolling in research seminars in international relations.

573-3 Seminar in International Organization. Student should see director of graduate studies for advance syllabus. Prerequisite: 473 or consent of instructor.

575-3 Seminar in International Law. Student should see director of graduate studies for advance syllabus. Prerequisite: 475a or consent of instructor.

577-3 to 6 (3, 3) Topical Seminar in Foreign Policy. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

580-3 to 6 (3, 3) Topical Seminar in International Relations. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

590-1 to 6 Readings. Supervised readings in selected subjects. Prerequisite: completion of the appropriate pro-seminar for the field in which readings or individual research is to be done.

591-1 to 6 Individual Research. Selection, investigation, and writing of a research paper under the personal supervision of a member of the department graduate staff. Prerequisite: completion of the appropriate pro-seminar for the field in which readings or individual research is to be done.

593-2 Seminar on Teaching Political Science. Designed to introduce the students to a variety of instructional philosophies, methods, source materials, audio-visual aids, and evaluative techniques appropriate for the teaching of political science at the college level. Open to all graduate students and required of each graduate student appointee and special doctoral assistant at the earliest offering of the course after the student is awarded financial assistance. Graded S/U only.

594-1 to 6 Applied Study in Political Affairs. Selection, investigation, and preparation of an applied study paper for mid-career students in public affairs. The project will be completed under the supervision of a department graduate staff member. Prerequisite: consent of department. Graded S/U only.

595-1 to 6 Internship in Public Affairs.

Fieldwork in the office of a governmental agency; city, county, state, national, or international. Under certain circumstances it might be in the office of a political party organization or in that of some organized pressure group. The type of internship and the place and organization in which it is taken must be mutually satisfactory to the student and the department. A paper in which the student correlates academic knowledge with practical experience is required. Prerequisite: consent of department. Graded *S/U* only.

599-1 to 6 Thesis. Maximum of six hours to be counted toward a degree. Prerequisite: consent of instructor.

600-1 to 36 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Psychology

404-3 Theories of Perception. An examination of the different theories concerned with an organism's sensory contact with the environment. Physiological, social, and organizational theories of perception will be considered. Prerequisite: 211 or consent of instructor.

407-3 Theoretical Issues in Learning. An introduction to the major theoretical issues in learning and their importance. A brief review of the history of such problems will be followed by a summary of the current research concerning these issues. Traditional figures in learning theory will be considered within the context of their positions on specific questions. Prerequisite: 309 or equivalent.

409-3 History and Systems of Psychology. A review of the conceptual and empirical antecedents of modern psychology. Prerequisite: senior status.

411-3 Principles of Training. An in-depth coverage of practical problems concerned with training to which the principles of learning derived from pure laboratory investigations can be applied. Prerequisite: 309.

415-4 Psychopharmacology. A survey of the effects of drugs on the normal and abnormal behavior of humans and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous and endocrine systems. Prerequisite: GSA 302, GSB 202. Elective Pass/Fail.

421-3 Psychological Tests and Measurements. Introduction to test theory and test development. Detailed coverage of selected

tests from such areas as intelligence, aptitude, and personality. Prerequisite: six hours of psychology.

431-3 Psychopathology. Classification, description, etiology, and treatment of the disorders of personality organization and behavioral integration. Observations in a state mental hospital setting. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.

432-3 Psychopathology of Childhood. An extensive review and systematic evaluation of theories and research pertaining to the behavior disorders of childhood. Emphasis will be upon empirical data and the implications of these data for the classification and treatment of these disorders. Prerequisite: 301, and 211 or Guidance and Educational Psychology 422.

440-3 Theories of Personality. A review and evaluation of major personality theories and their supporting evidence. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.

451-3 Advanced Child Psychology. An assessment of concepts, methods, and research techniques within selected topic areas of developmental psychology. Prerequisite: 211 and 301, or consent of instructor.

459-3 Theory and Practice in the Preschool. Designed for those interested in the education of the preschool-aged child. Examines a variety of topics and provides lectures, demonstration, and practicum experience in the Child Study Cooperative Nursery. Prerequisite: consent of instructor.

461-3 Advanced Social Psychology. Examines in depth current research in experimental social psychology. Emphasis is placed on topics such as person perception, interpersonal attraction, attitude formation and change, social influence, group processes, intergroup conflicts. Not for psychology graduate students. Prerequisite: 211, 307.

463-3 Attitudes: Theory and Measurement. Surveys social psychological theories of attitudes and techniques of attitude scale construction. Students work with existing data files and design and test original scales. Prerequisite: 307.

489-1 to 12 Seminar: Selected Topics. Varied content. Offered as need exists and as faculty interests and time permit. Prerequisite: consent of instructor.

510-3 Learning Processes. Reviews current literature in various areas of learning. Coverage is limited to those topics which are subject to laboratory investigation and which do not involve verbal processes.

511-3 Human Learning and Memory. Survey of the current experimental theoretical literature on human learning and memory with primary emphasis on verbal learning and memory. Prerequisite: consent of instructor.

512-4 Sensory Processes. A study of the structure and functions of the sense organs. Emphasizes the psychological data which describe the function of these organs. Lecture and laboratory. Prerequisite: consent of instructor.

513-3 Human Psychophysiology. Physiology, instrumentation, and methodology of psychophysiological measurements including both autonomic and central nervous systems. Attention will be given to basic and applied research. Prerequisite: graduate standing.

514-4 Neurobiological Bases of Behavior. An advanced study of neuroanatomical and neurophysiological principles underlying behavior. Topics covered include structure and function of neurons, synaptic transmission, sensory processing, motor control, development and plasticity of the nervous system, and other current topics in neurobiology. Prerequisite: GSA 302 or equivalent and consent of instructor.

515-3 Theory and Research in Cognitive Psychology. A detailed survey of current studies of attention, short-term memory, and thought processes. Prerequisite: consent of instructor.

520-3 Applications of the Psychology of Learning and Memory. A survey of the theories and methods of training that have resulted from research in the areas of learning and memory. Students will review some of the very recent methods as well as those that are better developed. Practice will be provided. Prerequisite: 309 or consent of instructor.

522-8 (4, 4) Experimental Design and Analysis. A relatively detailed treatment of the rationale for quantitative methods in psychological research: (a) experimental design and the analysis of variance; (b) complex designs and extensions of the analysis of variance. Prerequisite: psychology graduate student or consent of instructor.

523-3 Research Methods in Clinical Psychology. A discussion of the problems of experimental design, control, and analysis that are encountered by researchers in clinical psychology. This course emphasizes the application of techniques learned in other courses to the problems of critically evaluating published articles, generating research ideas, and evaluating internal and external validity of experimental designs. Prerequisite: Psychology department required statistical sequence.

524-3 Multivariate Methods of Psychology. Detailed treatment of multiple-factor analysis and multiple regression analysis. Also includes introduction to other multivariate methods such as discriminant analysis and cluster analysis. Prerequisite: 522b or consent of instructor.

525-3 Mental Test Theory. Intensive coverage of such topics in test theory as item analysis, reliability, validity, problems of weighting in differential prediction, and problems in selection and classification. Prerequisite: 421 or consent of instructor.

526-3 Research in Counseling Psychology. This course provides a basic foundation of research skills. The course includes extensive reading in counseling psychology research and coverage of research design, specific

research techniques, technical writing, and research ethics.

527-3 Theory and Methods of Scaling. The theory of measurement, by which observed behavioral events can be translated into quantitative scales of psychological constructs. The course will cover several axiom systems that form the foundation for psychological measurement, including representation in more than one dimension. Prerequisite: 522b.

528-3 Decision Analysis: Techniques for Aiding Decisions. A survey of formal methods for making decisions, based on subjective probability and multiattribute utility assessments. Students will be given practice in using methods of decision analysis for solving decision problems. Prerequisite: 522a or consent of instructor.

530-4 (2, 2) Systems of Personality and Psychotherapy. A survey of the major theories of personality and systems of psychotherapy. Stresses relationship between theory and application. Prerequisite: consent of instructor.

531-3 to 6 Community and Institutional Field Placement. Introduction to a variety of area agencies with each student affiliating with two agencies at least two days per week. Individual and group supervision with special attention to the variety of clinically related problems and approaches to treatment encountered in the course of their activities. Required for clinical students. Prerequisite: 530b, psychology graduate in clinical or counseling.

532-2 Experimental Approaches to Personality. Presentation of conceptual formulations and research data from representative experimental approaches to personality. Students will be expected to carry out a research project during the course. Prerequisite: 530a or consent of instructor.

533-2 Experimental Approaches to Psychopathology. An examination of the research literature on several issues in clinical psychopathology. Prerequisite: psychology graduate or consent of instructor.

534-3 Principles of Behavior Therapy. (Same as Rehabilitation 554.) A presentation of the clinical techniques and research findings associated with the various behavior therapies (including desensitization, assertive training, modeling, operant techniques, aversive conditioning, self-control, and "cognitive" behavior therapy). Prerequisite: graduate standing in the psychology department (clinical/counseling) or consent of instructor.

535-3 Psychopathology. Surveys the following issues and content areas in psychopathology: models and definitions of psychopathology, anxiety states, depression, schizophrenia, neurosis, behavior genetics, the mental hospital, and the classification of psychopathology. This course required for all clinical students within their first two years. Prerequisite: psychology graduate student or consent of instructor.

536-3 Fundamentals of Counseling. An introduction to counseling psychology as a professional specialty. Professional and ethical issues in the training and work of counseling psychologists are examined. Basic counseling skills are acquired through practice interviewing. Prerequisite: psychology graduate student or consent of instructor.

538-3 Theory and Practice of Group Facilitation. Didactic presentation of group dynamics and group counseling/therapy. Theories coordinated with facilitation of Psychology 101 groups. Prerequisite: graduate status.

539-3 Experimental Approaches to Psychotherapy. A review and evaluation of empirical research related to the amelioration of maladjustment. Emphasis is on measurement and methodological problems. Prerequisite: 530, 537 or consent of instructor.

540-3 Psychological Assessment. Basic theory and practice, underlying assumptions and research data of psychological assessment. Attention given to a variety of assessment procedures, including observation, interviews, and tests of intelligence and personality. Prerequisite: psychology graduate or consent.

542-3 Principles and Problems in Personality Assessment. Critical review of research related to such topics as scale construction strategies, response styles, trait attribution, judgmental accuracy, and judgmental processes. Prerequisite: consent of instructor.

547-3 Appraisal in Counseling. Emphasis is on the choice of assessment instruments and how they may be used in counseling. Attention is given to tests of ability, interests, values and personality and the syntheses of test and non-test information in the general practice of counseling. Prerequisite: 421 or consent of instructor.

548-3 Vocational Psychology and Career Development. Introduces students to vocational psychology as an area of academic inquiry. The topics covered include theories of career development, occupational information, computer applications, research issues, and vocational counseling techniques. Prerequisite: 547 or consent of instructor.

549-3 Behavioral Assessment. A didactic and practicum course concerned with principles and methods of behavioral assessment including behavioral interviewing, questionnaires, self-monitoring, naturalistic and structured observation, and psychophysiological assessment.

551-3 Advanced Developmental Psychology I. Studies current research trends in experimental child psychology: an introduction to methods and theory, the biological bases of development, infancy, cognition, perceptual development, and language. Prerequisite: consent of instructor.

552-3 Advanced Developmental Psychology II. Consideration of current methods, research, and theory in developmental psychology with particular attention to social and

personality development, and parent-child relations. Prerequisite: consent of instructor.

554-3 Developmental Theories. An analysis of contemporary theories of development and related research as they are derived from major historical theories of development. Prerequisite: 551 and consent of instructor.

555-3 Language and Cognition. Current theoretical problems in language and cognitive developments are investigated from the perspective of psychology, physiology, linguistics, and computer simulations. Prerequisite: consent of instructor.

556-2 Psychological Treatment of the Child. Investigation of methods of psychotherapeutic intervention with children. Traditional and innovative approaches. Prerequisite: 451 or consent of instructor.

557-2 Family Psychotherapy. Investigation of the psychosocial interior of the family. Evolution and dynamics of interaction in families. Emphasis on methods of psychotherapeutic intervention with families. Prerequisite: graduate student and consent of instructor.

558-3 Personality and Social Development of Adults. A lecture-discussion course which presents the major theoretical and empirical literature in the area of adult personality and social development. Students are encouraged to apply normal developmental constructs to understand individual adults, as well as to gain competence in research methods in this area. Prerequisite: psychology graduate student or consent of instructor.

564-3 Program Evaluation: Experimental and Quasi-Experimental Approaches. Review of experimental and quasi-experimental designs for assessment of program impact. Discussion of design, logistic, and political implementation problems. Detailed examination of a number of attempts at program evaluation. Prerequisite: 500-level statistics course.

571-6 (2, 2, 2) Proseminar in Applied Experimental Psychology. A survey of the problem areas to which applied experimental psychology is applicable and of the principal methods employed by applied experimental psychologists. Integration of these approaches within a comprehensive metatheory. Case studies apply the information to actual and simulated application problems.

576-3 Human Engineering. Analysis of human-machine systems, human factors in the design of display and control systems, limitations and capabilities of the operator. Lecture and research or field study. Prerequisite: consent of instructor.

585-1 to 18 Advanced Seminar. Seminars of varied content for advanced students. Prerequisite: consent of instructor.

590-1 to 12 Readings in Psychology. Readings in selected topics in psychology under staff supervision. Graded S/U only. Prerequisite: consent of instructor.

593-1 to 24 Research in Psychology. Research under staff supervision in selected

areas of psychology. Graded *S/U* only. Prerequisite: consent of instructor.

594-1 to 16 Practicum in Psychology. Practicum experience in a professional setting is offered under staff supervision in the following areas: (a) applied experimental psychology; (e) clinical psychology; (f) counseling psychology; (j) child psychology; (l) teaching of psychology. Graded *S/U* only. Prerequisite: consent of instructor.

595-1 to 12 Internship. Placement in an approved setting required of all students in clinical, bio-clinical, and counseling psychology. Graded *S/U* only. Prerequisite: psychology graduate student.

596-3 Behavior Therapy Practicum. Practicum experiences with a variety of behavior therapies in a variety of settings. Experiences may include operant and nonoperant therapies in the clinic, school, institution, home, or community. Prerequisite: 534, 549.

597-1 to 15 Preprofessional Training. Experience given in research, teaching, or clinical or counseling activities. One hour required each semester of residence. Graded *S/U* only. Prerequisite: psychology graduate student.

598-3 Ethical and Professional Problems in Psychology. The code of ethics in professional practice, in teaching and research; problems and issues of the field are discussed; and relations to other professions and the public are considered. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 24 Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Public Visual Communications

The Departments of Cinema and Photography and Radio-Television offer 400-level courses toward the Master of Arts degree in public visual communications.

500-3 Introduction to Public Visual Communications. Small group seminars in cinema, still photography, and television. Through lectures, demonstrations, discussions, and assignments, students are given work in research types and methods, aesthetic and critical theory and print and nonprint publication. 500 is prerequisite to all other

courses in the public visual communications program.

510-3 Researching and Developing Public Telecommunications Programming. Designed to train the advanced student in translating public issues into meaningful television programs. Includes organizing and editing results of research into public telecommunications program forms. Extensive reading and preparation of complete scripts. Prerequisite: 500.

530-3 International Telecommunications. Examination of various telecommunications systems of the world. Evolution, present status of these systems, and their probable future. Social, political, cultural, economic, geographic, and technological factors considered. Prerequisite: 500.

532-3 Audience Communications Research. Techniques of general broadcast audience research and attitudinal research as it is used in the broadcast industry. Methodology of sampling, and the development of questionnaires to discover audience reactions and attitudes toward broadcast messages. Prerequisite: 500.

541-6 (3, 3) Seminar: History of Photography. Advanced study of the history of photography with emphasis on the development of technique and content. First semester will deal with works through World War II. Second semester will deal with works since World War II. Students purchase texts. Prerequisite: 500.

542-6 (3, 3) Seminar in Film History. Analysis of the films and ideas associated with a particular director or a significant movement in motion picture history. Screening fee. Students purchase texts. Prerequisite: 500.

570-3 Public Telecommunications Program Analysis and Criticism. Development and applications of methods of analysis and critical criteria by which the content, esthetic elements, and forms of television programs might be objectively evaluated. Extensive reading in critical literature and critical analyses of selected television programs. Prerequisite: 500.

571-3 Regulation and Control of Public Communications. Study of the history of broadcast and film regulation and control. Case studies and research papers illuminate the problems solved. Prerequisite: 500.

572-4 (2, 2) Management of the Photographic Unit. Theory and practices of management in an internal photographic unit or commercial studio. First semester deals with management theory and analysis of various management practices. Second semester involves preparation by each student of a management survey and analysis of an existing unit or studio. Students purchase texts. Prerequisite: 500.

573-3 Public Telecommunications Management. An examination of regulatory, fiscal, programming, and personnel areas involved with the functions of management in local public television station operation. In-

dependent readings and research papers. Prerequisite: 500.

574-3 Contemporary Theoretical Approaches to the Cinema. An intensive examination of the dominate recent theoretical approaches to the cinema. The application of cinema of semiology and structuralism, with very recent branches into psychoanalysis and ideology, will be concentrated upon. Films related to the issues under study are assigned for viewing. Students purchase texts.

580-2 Seminar: Current Trends in Public Telecommunications. Detailed examination of current trends affecting public telecommunications. Extensive reading. Social issues, economic pressures, and technological developments will be covered. Prerequisite: 500.

589-3 Seminar: Public Communications in a Dynamic Society. The study, processes, and effects of communication through the public media, in historical perspective and in contemporary social problems. In-depth examination of responsible interrelationships of society with electronic, photographic, and film media. Prerequisite: 500.

591-1 to 6 (1 to 3, 1 to 3) Individual Study in Public Visual Communications. Supervised research or independent investigative projects. Area of study to be determined by student in consultation with public visual communications faculty. Prerequisite: 500.

595-1 to 6 (1 to 3 per topic) Advanced Topical Seminar. Advanced research and discussion of various specialized areas of cinema, still photography, television, and interrelated disciplines. Prerequisite: 500, 12 hours of graduate credit in the public visual communications program, and consent of instructor.

597-2 to 6 Production Seminar: Cinema, Photography, and Television. Individual or production-team projects in motion picture, photographic, or television production. Prerequisite: 500 and 24 hours of completed graduate work or consent of student's committee. Graded *S/U* only.

599-3 to 6 Thesis. Thesis requirements may only be satisfied by a traditional written thesis. A minimum of three hours and a maximum of six hours will be counted toward degree requirements. Prerequisite: 500 and 589.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Radio-Television is offered toward the Master of Arts degree in public visual communications. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

430-2 Public Affairs and the Radio-Television Establishment. An examination of the history and scope of public affairs programming on radio and television. The effects of public affairs on programming and audiences. Prerequisite: *C* grade in 300M and 300P.

453-2 Public Broadcasting. The history and regulatory structure of public broadcasting in the United States today, with special emphasis on organizations regulated under the Public Broadcasting Act of 1967. Methods of funding public stations, programming, and careers in public broadcasting area also considered. Prerequisite: *C* grade in 300M and 300P; 308.

467-3 Radio-Television Production Survey. Production techniques and equipment for all phases of radio and television presentations for those who are not planning professional careers in broadcasting. Standards for equipment and facilities selection. Radio and television laboratory production projects. Prerequisite: non-major.

470-3 Documentary Film Production. For the student with a serious interest in the documentary film. Students work in teams researching, writing, filming, and editing films on subjects relating to historical, cultural, or social issues. Prerequisite: *C* grade in 300M, 300P, and 370 or *C* grade in Cinema and Photography 355 and 356 and consent of instructor. Mandatory Pass/Fail. Graduate students must take on letter grade basis.

481-2 ITV Administration, Production, and Utilization. Development of ITV production with emphasis on the use of instructional objectives, the relationship of users' manual to the instructional series, and the functions of various personnel in the administration of instructional television. Prerequisite: *C* grade in 300M and 300P.

483-3 Advanced Radio-Television Writing. Exercises in writing broadcast manuscripts including documentary, drama, and childrens' programming. Prerequisite: *C* grade in 300M, 300P, and 383; 340.

489-2 to 6 Radio Television Workshop. Advanced work in various areas of radio-television and interrelated disciplines. Prerequisite: *C* grade in 300M, 300P, and consent of instructor.

491-3 to 6 (3, 3) Independent Study. Area of study to be determined by student in consultation with radio-television graduate faculty. Prerequisite: *C* grade in 300M and 300P and consent of instructor.

Radio-Television

Graduate work in the Department of

Recreation

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

401-3 Fundamentals of Environmental Education. (Same as Agriculture 401.)

423-3 Environmental Interpretation. (Same as Agriculture and Forestry 423.)

460-3 Therapeutic Recreation. Organization and administration of therapeutic recreation programs in hospitals, nursing homes, schools for the retarded, detention centers, prisons, and other institutions. Emphasis on programs for special populations in the community setting. Prerequisite: 300, 302, 303 or consent of department.

461-3 Program Design and Evaluation for Therapeutic Recreation. To equip the student with skills necessary to systematically design and evaluate programs. Philosophy, and nature of systems, systems analysis, program implementation, and program evaluation. Prerequisites: 300, 302, 303, or consent of department.

462-3 Facilitation and Leisure Counseling Techniques. Study of concepts of leisure counseling as applied to special populations; leisure education models; facilitative techniques including gestalt awareness, transactional analysis, reality therapy, behavior modification, non-verbal communication, values classification, assertive training, rational emotive therapy, and relaxation therapy.

470-2 School and Community Recreation. The role of the public schools in community recreation. Emphasis on current practices and trends in curriculum content, adult education, extracurricular activities, after-school and vacation programs, and cooperative programs with other agencies. Prerequisite: 300, 302, 303 or consent of department.

475-1 to 24 (1 to 4 per topic) Recreation Workshop. Critical examination and analysis of innovative programs and practices in one of the following areas: (a) commercial, (b) student centers, (c) outdoor education, (d) outdoor recreation, (e) mentally retarded, (f) emotionally disturbed, (g) teen centers, (h) family, (i) aging, (j) prisons and detention centers, (k) physically handicapped, (l) budget and finance, (m) playground leadership, (n) maintenance of areas and facilities. Critical examination and analysis of innovative programs and practices in the maintenance of grounds and facilities. Maximum of six hours to count toward master's degree.

485-2 to 12 Practicum in Outdoor Education. A supervised experience in a professional setting. Emphasis on administrative, supervisory, teaching, and program leadership in outdoor, conservation, or environmental education setting. Costs for travel are the respon-

sibility of the student. Prerequisite: consent of instructor.

500-3 Principles of Recreation. Principles and interpretation of recreation and the basic concepts underlying the organization of leisure activities. Emphasis on cultural significance of recreation and the relationship of recreation to the totality of life. Required of all majors.

520-3 Park and Recreation Management. Basis for planning recreation programs and facilities. Administrative problems dealing with legislation, finance, and budget, public relations, office management and personnel are discussed in terms of effective professional management. Prerequisite: 500 or concurrent enrollment or consent of instructor.

524-3 Professional Skills in Therapeutic Recreation. This course focuses on professional skills necessary at the administrative and supervisory level. Program and staff development, conference presentations, and inservice training, grantsmanship, article writing, budgeting, consultation, and public relations comprise the core of the course. Prerequisite: 460, 461, or consent of department.

525-3 Recreation for Special Populations. Planning, organizing, selecting, evaluating, and adapting activities to a variety of institutional and community settings. Prerequisite: 500 or consent of department.

526-3 Professional Issues in Therapeutic Recreation. This course focuses on current issues in therapeutic recreation services including credentialing, accreditation, professional associations, legislation, research, and other relevant issues. Prerequisites: 524 or consent of department.

530-3 Programs in Recreation. Program planning, organization, and implementation of leisure programs in a variety of recreation settings and for a variety of population groups. Prerequisite: 500 or concurrent enrollment or consent of instructor.

540-3 Planning Park and Recreation Areas. An examination of master plans for outdoor areas used in recreation programs. Principles of masterplanning and practical experience with the master plan will be correlated. Prerequisite: 500 or consent of instructor.

550-3 Research in Recreation. Critical analysis of the most significant research studies in park and community, special populations, commercial and outdoor recreation. Prerequisite: 530.

560-6 (2, 2, 2) Seminar in Recreation. Major issues, trends, and cultural, economic and social significance in (a) park and community, (b) special populations, and (c) commercial recreation. Prerequisite: 500 or consent of department.

565-3 Seminar in Environmental and Outdoor Education. Discussion of individual projects, presentation of research problems and dissertation topics. Prerequisite: consent of instructor.

570-3 Seminar in Recreation Management. An integrated seminar dealing with the problems involving park and community, commercial, institutional, outdoor, church, school, and other recreation settings and populations. Current economic and social changes will be examined to determine their influence on the recreation profession. Required of all majors. Prerequisite: 520 and 530.

575-1 to 6 Individual Research. Selecting, investigating, and writing of a research topic under the personal supervision of a member of the department. Designed to help the student to develop ability to design, conduct, analyze, and interpret research related to the problem of leisure. Not more than three hours may count toward master's degree. Prerequisite: consent of instructor.

580-1 to 6 Readings in Leisure and Recreation. Readings in selected topics in leisure and recreation under staff supervision. Not more than three hours may count toward master's degree. Prerequisite: consent of instructor.

596-1 to 6 Field Work in Recreation. Field work in an approved recreation department. Field work is in the student's field of interest. Supervision under approved agency officer in charge and a member of the department. Prerequisite: major in recreation and permission of the department.

599-1 to 3 Thesis. Prerequisite: consent of department.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Rehabilitation

Courses in this unit may require the purchase of supplemental materials not to exceed \$10 per course. Field trips are required for certain courses.

400-2 to 3 Introduction to Rehabilitation. An introduction to the broad field of rehabilitation, to include the processes (services), facilities and personnel involved. Note: Students can enroll in the didactic portion for two credits, or three credits if they elect the field trips. No student can take the field trips alone without taking the didactic portion as well.

402-1 to 3 Human Development and Behavior. Examines theories and systems of human development, personal behavior patterns, and learning principles related conceptually to rehabilitation processes and practices. Prerequisite: consent of instructor.

406-3 Introduction to Behavior Modification. A survey of the principles and procedures in behavior modification and the scope of its application to human needs and problems.

409-3 Scientific Methods in Behavior Analysis. A general review of philosophical issues and methodological approaches to the study of human behavior, includes sampling procedures, group statistical designs, and single-subject multi-manipulation and multi-replication tactics. Prerequisite: consent of department.

419-1 to 3 Cross-Cultural Rehabilitation. (Same as Black American Studies 490.) Major focus on the relationship/comparison of basic cultural, economic, and psychosocial processes relative to the rehabilitation of people in contemporary societies. Prerequisite: consent of instructor.

421-3 Vocational Development and Placement. Relates the psychosocial meaning of work, process of vocational development, theories of occupational choice and labor market trends to current and innovative methods of job development, selective placement, and follow-up with the handicapped. Prerequisite: consent of instructor.

425-1 to 6 Developing Employment Opportunities. Designed to train rehabilitation personnel in the attitudes, methods, and skills pertinent to placement of handicapped persons in competitive and other occupations. Prerequisite: special standing and consent of instructor.

431-3 Assessment Procedures in Rehabilitation. Review of fundamental bases of measurement, criteria for evaluating tests, practice with representative instruments in major categories, and the use of tests and work samples in assessing the handicapped's functioning abilities and work potential.

436-3 to 4 Vocational Evaluation and Adjustment Services. Introduction to the philosophies of evaluation and adjustment services in rehabilitation settings with emphasis on the rationale for use of psychometric testing, functional behavioral analysis, work sampling, situational assessment, and on-the-job evaluation in relation to the development of individualized adjustment service programs.

445-2 to 12 Rehabilitation Services with Special Populations. Procedures and programs pertinent to the care and treatment of special populations. Two semester credits will ordinarily be granted for each unit.

(a)-6 (2, 2, 2) Aging.

(b)-6 (2, 2, 2) Alcohol and Drug Abuse.

(c)-6 (2, 2, 2) Economically Deprived.

(d)-6 (2, 2, 2) Emotionally Disturbed.

(e)-6 (2, 2, 2) Genetically Disabled.

(f)-6 (2, 2, 2) Juvenile Offender.

(g)-6 (2, 2, 2) Mentally Retarded.

(h)-6 (2, 2, 2) Physically Handicapped.

(i)-6 (2, 2, 2) Public Offender.

(j)-6 (2, 2, 2) Sensory Disabled.

(k)-6 (2, 2, 2) Developmentally Impaired. Prerequisite: consent of instructor.

446-2 Psychosocial Aspects of Aging. Selected theories of psychosocial aspects of aging will be presented and the psychological and sociological processes of aging with the ensuing changes will be related to these conceptual frameworks. Included for discussion and related to field experience will be such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging. Topics will address the knowledge base needed by students concerned with rehabilitation of aging clients in institutional, community, and home settings. Therapeutic techniques to ameliorate these stresses will be an integral part of the course. Prerequisite: consent of instructor.

447-2 Biomedical Aspect of Aging. The aging process in a life-span developmental perspective; biological theories of aging, physiological changes in middle and old age and their effects on behavior, performance potential, and psychosocial functioning; senility and other age-related disabilities, their prevention and management; geriatric health maintenance and rehabilitation; institutionalization; death and dying. No prerequisites.

451-3 to 4 General Rehabilitation Counseling. A didactic and experiential analysis of the underlying premises and procedures of individual and group counseling in rehabilitation settings. Prerequisite: consent of instructor.

453-1 to 4 Personal and Family Life Styling. The academic and personal competencies that are characteristic of fully-functioning, integrated persons within the context of our twentieth century environment will be systematically reviewed for adoption in every day living as well as in professional functions. Participants will focus on and experience life styling theories, models, and skills for their own growth and development and learn to assess basic risk-factors in their rehabilitation clients and families prior to helping them program a more balanced, synergistic, and holistic approach to living. Prerequisite: consent of instructor.

461-2 Introduction to Alcoholism and Substance Abuse in Rehabilitation Practice. A survey of alcohol and substance abuse including the psycho-social and physiological aspects precipitating and maintaining abuse. Further, an overview of indices, population characteristics, and treatment paradigms will be explored as they relate to the rehabilitation process and federal/state legislation.

468-3 Sexuality and Disability. Research and rehabilitation practices pertaining to the unique psychosexual aspects of various chronically disabling conditions will be examined.

471-2 Community Rehabilitation for the Alcohol and Substance Abuser. A comparative survey of community-based programs for the alcohol and substance abuser with a focus upon the rehabilitation counselor's role in planning, evaluating, and facilitating the

use of community resources and varying service agencies in the rehabilitation process for the substance abuser. Prerequisites: permission of instructor.

479-0 to 2 Technical Writing in Rehabilitation. Fundamentals of writing skills applicable to special areas of concern to rehabilitation specialists, namely: writing journal articles, drafting program/grant proposals, and preparing news releases, and program/evaluation reports.

490-1 to 6 (1 to 3 per semester) Readings in Rehabilitation. Supervised readings in selected areas. Prerequisite: consent of instructor.

494-1 to 12 Work Experiences in Rehabilitation. Rehabilitation 494 and 594 both cannot be counted for graduate degree, only one or the other can satisfy requirements toward a master's degree. Elective Pass/Fail.

501-2 Rehabilitation Foundations. Underlying processes and concepts of rehabilitation practices. Prerequisite: consent of instructor.

503-3 Basic Behavior Analysis. Includes pertinent terminology and basic methodology of operant and respondent behavior, as well as laboratory experience in shaping new behaviors and in modifying established behaviors through a variety of operant procedures. Prerequisite: consent of department.

508-3 Complex Behavior Analysis. Experimental analysis of procedures that result in acquisition, maintenance, and attenuation of complex individual and social behavior. Prerequisite: consent of instructor.

513-1 to 4 Medical and Psycho-Social Aspects of Disability. A review of the impact of disease and trauma on the human system with special attention on the effects physical limitations and socio-emotional correlates have on human functioning and the rehabilitation process. Prerequisite: consent of department.

515-3 Behavioral Applications to Medical Problems. Examines the use of behavior change procedures and applied behavior analysis in the treatment and rehabilitation of medically related problems such as obesity, alcoholism, headaches, hypertension, and cerebral palsy; also, compliance to medical regimens, e.g., diabetes, dental hygiene, exercise; and promotes the utilization of health facilities and community health programs. Issues in training medical personnel to disseminate behavior change programs are also covered. Prerequisites: 409 and 503 or consent of instructor.

523-3 Job Restructuring for the Handicapped. Introduction to the analysis and measurement of job tasks and the design and layout of work environments with special emphasis on the use of jigs, job restructuring, and prosthetic environments for the handicapped. Prerequisite: 421 and consent of instructor.

525-3 Developing Job Readiness. Designed to prepare job development and place-

ment specialists and other rehabilitation personnel to develop programs of job readiness aimed at training individuals with handicapping conditions to seek and hold gainful employment. Prerequisite: consent of the instructor.

531-3 Individual Assessment Procedures in Rehabilitation. Through familiarization and practice with independent assessment devices used in program selection and job placement of individuals with various handicaps. Prerequisite: 431 and consent of instructor.

533-2 Vocational Appraisal. Consideration of the information compiled from interviews, tests, questionnaires, biographies, observations, and other diagnostic techniques in the vocational assessment and planning of vocational rehabilitation services. Prerequisite: consent of instructor.

535-1 Behavioral Observation Methods. Behavioral targeting, observational recording techniques, and issues of validity and reliability of measurement relevant to rehabilitation will be examined. 409 and 503 or concurrent enrollment and consent of instructor.

543-3 Child Behavior. A systematic analysis of the genetic and environmental determinants of childhood behavior. Emphasizes learning approaches for remediation of behavior disorders. Prerequisite: consent of instructor.

545-3 Behavior Modification in Mental Retardation. Consideration of behavioral principles as applied in the development of responsive behavior in mentally retarded persons. Prerequisite: consent of instructor.

553-3 Learning Therapies for Special Populations. Describes treatment, rehabilitation, and teaching procedures with the emotionally disturbed, problem drinkers, mentally retarded, and autisms and other disruptive behaviors. Prerequisite: consent of instructor.

554-3 Behavior Therapy. Considers research findings and basic principles of behavior modification relative to such behavior therapies as desensitization, assertive training, aversive conditioning, and behavior rehearsal. Prerequisite: consent of instructor.

557-2 to 6 Self Regulation of Behavior. Self regulation covers a variety of procedures by which a person's life can be enhanced. These include behavioral self management, biofeedback, and stress reduction techniques. The methods, theory, and research of these self control techniques will be critically reviewed. Students will be trained in the practice of the techniques and in their application to rehabilitation populations. Prerequisite: consent of instructor.

558-2 Rehabilitation of the Alcohol and Substance Abuser. A didactic and experimental analysis of the specialized treatment modalities used in the rehabilitation of the substance abuser with focus given to counseling, behavioral and chemotherapy techniques, and innovative paradigms presented

through research and field studies. Prerequisite: 461, 471.

562-3 Rehabilitation Facilities and Developmental Centers. Surveys the history and development of rehabilitation facilities and developmental centers for the handicapped and then focuses on current principles and practices of these facilities in terms of nature, classification, objectives, standards, philosophies, theories, programs of services, organization, administration, financing, and trends for the future. Prerequisite: consent of instructor.

564-3 School Related Behavior. Analysis of student and teacher behavior and the behavioral methods of improving teaching and learning. Prerequisite: consent of instructor.

568-3 Sexual Behavior and Rehabilitation. Consideration of human sexual behavior including basic anatomy and physiology; sexual facts and fallacies; and analysis of sexual inadequacies, variances, and deviances. Special emphasis is placed on the application of therapies for the rehabilitation of people with sexual problems. Prerequisite: consent of instructor.

570-3 Rehabilitation Administration. Problem solving approach to current issues in organizational structure and management functions in public and voluntary rehabilitation agencies, decision making, leadership, program development, and evaluation. Prerequisite: consent of instructor.

572-1 to 3 Volunteer Administration and Programming. Practice of developing, organizing, and programming volunteer activities in the human services. Prerequisite: consent of department.

573-2 to 3 Programming, Budgeting, and Community Resources. Designed to prepare the student to develop and operate comprehensive or specialized rehabilitation programs with special attention to resource development, fiscal management, and community and public relations. Prerequisite: consent of instructor.

574-3 Staff Training and Development. This course prepares the student to design, implement, and supervise an institutional program to train staff in methods of direct service to the institution's clients. Each student will actually design and submit a program through simulation. Lecture/workshop format.

575-2 Case Management and Reporting. Basic procedures in providing and coordinating available human services based on individual need in the context of a professional-client relationship, and the basics of recording and reporting such services. Prerequisite: consent of department.

576-2 to 3 Development and Supervision of Rehabilitation Employees. Current and progressive supervisory practices in rehabilitation with emphasis on employee development through in-service training, periodic evaluation, and related methods. Prerequisite: consent of instructor.

578-3 Program Evaluation in Rehabilitation. An analysis of the development and utilization of a program evaluation system in rehabilitation settings with focus given to system design, monitoring techniques, and service program development. Students will be trained in the advanced practice of program evaluation techniques and their application to rehabilitation settings. Prerequisite: consent of instructor.

579-3 Advanced Fiscal Management in Rehabilitation. Application of funds and functional accounting in rehabilitation to include fiscal reporting and record keeping, fiscal planning, and management in rehabilitation. Prerequisite: 570 and 573.

580-3 Professional and Community Relations in Rehabilitation. Examination of the linkages and needs of rehabilitation programs and agencies in the area of community and professional relations, with special reference to the role of administrator. Application of marketing principles to the management of external relations in rehabilitation settings. Prerequisite: consent of instructor.

581-4 (2, 2) Seminar: Professional Issues in Rehabilitation. Focus is upon the ethical, legal, legislative issues and processes in the field of rehabilitation. Seminars are in the following areas: (a) legal and ethical issues for the community or local agency; (b) policies and legislative issues at the state and federal level.

582-1 to 4 Seminar in Rehabilitation Services. Special consideration of factors in the organization and management of rehabilitation services. Prerequisite: consent of instructor.

583-1 to 4 Seminar in Work Evaluation. Select attention to procedures/models for assessing work readiness of handicapped personnel. Prerequisite: consent of instructor.

584-1 to 6 (1 to 2 per semester) Seminar in Behavior Modification. Special topics and new developments in modifying human behavior. Prerequisite: consent of instructor.

585-1 to 4 Seminar in Counseling/Coordination Services. Consideration of special issues in counseling and delivery of services. Prerequisite: consent of instructor.

586-3 Seminar in Job Development and Placement. Consideration of special issues in job development and placement philosophy, techniques and research concerning individuals with handicapping conditions. Prerequisite: consent of the instructor.

587-3 Seminar in Correlates of Disability. A systematic analysis of the behavioral socio-cultural implication of disabling conditions. Emphasizes the rehabilitation process in remediation of handicapping conditions. Prerequisite: 513 or consent of instructor.

588-4 Seminar in Research in Rehabilitation. Advanced seminar focusing upon specialized and advanced topics in research in rehabilitation. This course is designed to prepare doctoral students in rehabilitation with the special tools needed to carry out

doctoral dissertation and other advanced research projects. Prerequisite: 596 or consent of instructor.

589-1 to 18 (1 per semester) Professional Seminar in Rehabilitation. The course involves advanced level presentations focusing on current research, applied practices, and innovations in rehabilitation. Presentations are made by faculty, graduate students, and guest experts. A minimum of four semester hours required for Doctor of Rehabilitation degree.

591-1 to 18 Independent Projects in Rehabilitation. Systematic readings and development of individual projects in pertinent rehabilitation areas. No more than six hours may be counted toward the master's degree. Prerequisite: consent of instructor.

592-1 to 16 Professional Supervision in Rehabilitation. Experience provided in the supervision of research, teaching, and rehabilitation services. No more than four hours may be taken in any semester. Prerequisite: doctoral student in rehabilitation and consent of instructor.

593-1 to 18 Research in Rehabilitation. Systematic investigation of factors and procedures relevant to rehabilitation. No more than six hours may be counted toward the master's degree. Prerequisite: consent of instructor.

594-1 to 12 Practicum in Rehabilitation. Supervised experiences in agencies in rehabilitation. (a) Administration. Rehabilitation facilities management/supervision, in planning, programming, and evaluation. (b) (Same as Psychology 596.) Behavior modification. Application of behavioral analysis/methods in human treatment and in management. (c) Counseling. Development of counseling skills with individuals and groups to include work related functions. Prerequisite: consent of department.

595-1 to 12 Internship in Rehabilitation. Extended practice in rehabilitation settings cooperatively guided and supervised by agency staff and university faculty. Prerequisite: 594 and consent of department. Graded S/U only.

596-4 Research Design and Methodology in Rehabilitation. Manipulative and non-manipulative research methods, group and single subject designs, data analysis, and research evaluation pertinent to rehabilitation will be considered. Prerequisite: Guidance and Educational Psychology 506 or consent of instructor.

599-1 to 6 Thesis. Prerequisite: consent of instructor.

600-1 to 30 Dissertation. Minimum of 24 hours to be earned for the Doctor of Rehabilitation degree. Prerequisite: doctoral candidate in rehabilitation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have

completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Religious Studies

There is no graduate program offered through religious studies. Four-hundred-level courses in this unit may be taken for graduate credit unless otherwise indicated in the course description.

410F-3 Comparative Religion. (See Anthropology 410F.)

441-3 Themes in Greek Tragedies and the New Testament. (See Classics 441.)

496-1 to 6 Honors Readings in Religion. Topics selected by student and instructor which ordinarily are not covered in depth in regular course offerings. Not available for graduate credit. Prerequisite: consent of department.

Science

500-2 Science Information Sources. Methods and procedures to efficiently exploit the scientific literature are discussed. The two-hour class discussion will be supplemented by practical exercises in library usage. Prerequisite: consent of instructor.

Social and Community Services, Division of

Black American Studies

There is no approved graduate program in black American studies. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

430-3 Black Political Socialization. Definitive approach to how people learn about politics focusing on Blacks because of their unique experience; i.e., prolonged minority group status. Research oriented, in that, it takes an explanative and predictive approach to produce models of political learning. Not for graduate credit. Prerequisite: 230, junior or senior standing, or consent of instructor.

445-3 Race and Politics. (See Political Science 429.) Not for graduate credit.

455-2 to 12 Rehabilitation Services with Special Populations.

465-3 Governments and Politics of Sub-Saharan Africa. (See Political Science 465.)

475-3 Sociological Effects on Black Education. A teacher-oriented course dealing with up-to-date research in Black and minority education. The instructor utilizes the findings of current periodicals to present models for understanding and communicating with Black children. Not for graduate credit. Prerequisite: Education 303 or consent of department.

480-4 to 8 (4, 4) Seminar in Black Studies. Analyses of the black experience directed toward practical contributions in the area studied. Topics vary with instructor. May be repeated once for a total of 8 credits provided registrations cover different topics. Topics announced in advance. Prerequisite: GSB 109 or consent of department.

490-1 to 3 Cross-Cultural Rehabilitation. (See Rehabilitation 419.) Not for graduate credit.

499-1 to 5 Special Readings in Black American Studies. Supervised readings for students with sufficient background. Registration by special permission only. Offered on demand. Prerequisite: consent of instructor.

Community Development

401-3 Introduction to Community Development. This course surveys the field of community development, an applied social science that encourages self-reliance by generating change and growth strategies for groups and communities. The course focuses on the history and philosophy of community development, citizen rights issues, change techniques, value dilemmas confronting change agents, and examination of some current community development programs.

402-3 Third World Community Development. Analyses of the history, goals, methods, and techniques of socioeconomic development in the Third World countries. Cultural, economic, social structural, political, and administrative factors in development and in the process of community organization are discussed. Case studies from Africa, Asia, and Latin America.

403-3 Community Organization. An examination of basic approaches to community organization used by change agents and human service workers. Special emphasis is placed on sensitizing students to consumer participation issues.

404-3 Role Theory and Analysis in Community Development. The focus of this course is on role theory and methods of analysis. The student will gain considerable exposure to the techniques of role analysis as an evaluation tool in community development training and program development. Elective Pass/Fail.

405-3 Social Planning. Introduction to the methods, practices, functions, and ethics of social planning in the United States, including a critical perspective. Criminal justice, health, manpower, welfare, and other sectors of social planning will be discussed to illustrate the principles of social planning.

491-1 to 6 Independent Study in Community Development. Supervised individual study and projects in keeping with the needs of each student. Prerequisite: consent of instructor.

497-1 to 12 (1 to 3 per topic) Seminar in Community Development. The identification and analysis of special problems in community development. (a) Project funding, evaluating, and reporting; (b) central and peripheral systems in community development; (c) community development cooperatives and credit unions; (d) research problems and methods; (e) special problems. Credit limited to not more than three per topic and not more than 12 total.

500-3 Research Seminar in Community Development. Introduction to research design, theory, sampling, data collection (both qualitative and quantitative), information retrieval, data analysis, and research criticism. Content based on community issues and concerns. Students are encouraged to incorporate their interests and projects into the course work.

501-4 Small Group Process in Community Development. This course combines theory and laboratory methods in giving the student greater awareness of the dynamics of individual interaction in small groups. Such issues as authority, leadership, power, trust, decision making, communication, problem solving, goal setting and attainment, giving and receiving feedback, resource utilization, and evaluation are covered in both theory and laboratory sessions.

502-3 Community and Change. Analyses of causes of social problems and methods for planned change at community level. Local community problems are examined in the context of wider socio-economic and political settings. Changing patterns of community in the United States and elsewhere are explored.

503-3 Community Development Practice. Focuses upon a range of community development problems, models, and practical skills. Observation of field consultants, community organizers and agencies, and persons skilled in and programs demonstrating distinctive approaches to community development. Prerequisite: 401.

589-2 Community Development Internship Seminar. To prepare student for supervised field internship experience. Must be taken concurrently with (or as a prerequisite to) 595, Internship.

593-1 to 6 Individual Research in Community Development. Enables an advanced student to do independent study in community development under the supervision of a faculty member or to pursue work on a terminal research report or advanced field project. Prerequisite: 500 and consent of instructor.

595-1 to 8 Internship. A supervised field experience to acquaint students with problems, situations, and challenges typical of community development work. Students develop a community-based project which allows them

to gain experience while demonstrating proficiency in appropriate skills. Personal growth and professional potential are considered in evaluating interns field performance. Seven credit hours (350 field hours) are required for the M.S. degree; additional work may be taken as elective hours, calculated at 50 clock hours per semester hour. Graded *S/U* only. Prerequisite: 589 or concurrent enrollment and consent of internship coordinator.

599-1 to 6 Thesis Research. Credit is given for work accomplished on a master's thesis when it is accepted and approved by the thesis committee. Prerequisite: 500 and approval of thesis committee chairperson.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Social Welfare

There is no approved graduate program in social welfare. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

401-4 Social Work Methods: Individuals and Families. An examination of problem solving interventions and environmental modifications skills for use with individuals and families. Prerequisite: 375, 380, 383, and Health Education 311.

402-4 Social Work Methods: Group Theory and Practice. This course examines social work group process with clinical and non-clinical groups. Leadership, roles, goal setting, and interventive strategies are addressed. Prerequisite: 375, 380, 383, and Health Education 311.

411-3 Methods of Social Research. Examines the principles, concepts and methods of scientific investigation in terms of its application to social work research and practice. Not for graduate credit. Prerequisite: 375, 380, 383, Health Education 311, and GSD 112 or its equivalent.

416-3 Human Behavior and the Social Environment. A social systems approach to the study of human development and behavior. Examination of environmental forces impinging on the individual and implications for social work practice. Not for graduate credit for social welfare majors. Prerequisites: 375, 380, and Health Education 311.

421-3 Social Welfare Policy. This course provides an in depth examination of social welfare structure, functions, policy, and programs, as well as strategies for shaping and changing policy. Prerequisite: 401, 402, 416, and Health Education 311.

441-6 Social Work in Selected Agencies. At least 20 hours per week of supervised experience in an approved social work agency with concurrent weekly seminar. Not for graduate credit. Field work practicums begin only in fall and spring semester. Must be taken concurrently with 443. Prerequisite: senior standing, 375, 380, 383, 401, 402, 416, and a 2.5 grade point average in departmental prerequisites. Mandatory Pass/Fail.

442-6 Advanced Field Practicum. Supervised field work experience in an approved social service agency with concurrent weekly seminar. At least 20 hours per week. Not for graduate credit. Field work practicums begin only in fall and spring semester. Must be taken concurrently with 444. Prerequisite: senior standing, 375, 380, 383, 401, 402, 416, and a 2.5 grade point average in departmental prerequisites. Mandatory Pass/Fail.

443-1.5 Field Practicum Seminar. The seminar assists the student who is in field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social welfare theory. The seminar builds on and reemphasizes content provided in previous social welfare courses. Seminar discussion focuses on shared field work experiences: practice issues related to social welfare principles, ethics and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 441.

444-1.5 Advanced Field Practicum Seminar. The seminar assists the student who is in field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social welfare theory. The seminar builds on and reemphasizes content provided in previous social welfare courses. Seminar discussion focuses on shared field work experiences: practice issues related to social welfare principles, ethics, and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 442.

450-1 to 6 (1 per topic) Seminar in Special Issues for Social Welfare. (a) Practice. (b) Policy and planning. (c) Public welfare services. Topic will be selected from these three areas. Limited to no more than three credit hours per semester. May be repeated as topic varies up to six semester hours. Prerequisite: junior standing and consent of instructor.

461-3 Child and Family Services. Problems of child-parent relationships and difficulties in social functioning of children and adolescents. Adoptions, foster home and institutional placements, protective services. Not for graduate credit. Prerequisite: consent of instructor. Elective Pass/Fail.

463-2 Social Work with the Aged. Basic concepts of social work methods applied to the older adult group. Characteristics of the aged group, its needs and potentials. Social trends and institutions involved in services to the aged. Prerequisite: permission of instructor. instructor.

466-3 Public Policies and Programs for

the Aged. An introduction to public policy, programs, and planning for the aged. A framework is utilized for analyzing policy issues, programs, and research in such areas as income maintenance, long term care, transportation, leisure time, housing, and social services in order to aid present and future practioners who work with the aged.

496-1 to 6 Independent Research in Social Welfare. Provides opportunity for students to conduct independent research with the guidance of a faculty member. Topics of research are identified by the student and faculty member. Prerequisite: consent of instructor.

Sociology

406-4 Social Change. Theories and problems of social change; their application, with emphasis on the modern industrial period. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

413-3 European Rural Society, 400-1100 A.D. (Same as History 413.)

Monks, priests, peasants, barons, and kings: an historical sociology of the ecclesiastical and feudal regimes which replaced classical civilization after the fall of the Roman Empire in the West. Elective Pass/Fail.

414-3 European Urban Society, 1000-1500 A.D. (Same as History 414.)

Merchants, bankers, craftsmen, lawyers, and bureaucrats: a sociological and economic analysis of the origins and development of early modern European urban institutions. Elective Pass/Fail.

415-3 Logic of the Social Sciences. (See Philosophy 415.)

424-4 Social Movements and Collective Behavior. A sociological analysis of the behavior of collectivities in uninstitutionalized settings; crowds, masses, publics, and social movements will be examined with relation to their social and cultural backgrounds, forms of expression and organization, and their functions in society. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

426-4 Social Factors in Personality and Adjustment. Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches—symbolic interaction, role theory, developmental social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

435-4 Social Stratification. A comparative study of social class systems, with emphasis on the American system. Relationships of class position to behavior in family, religion, politics, etc. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

437-4 Sociology of Rural Development. Rural development and rural social problems

in the United States and other countries. Concepts of rural and urban, developed and underdeveloped, characteristics of rural populations and institutions; rural development analyzed functionally and historically. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

450-4 Social Thought. Traces of historical development of sociology from its beginnings in the Enlightenment to the classical expositions of the early 20th Century. Prerequisite: 301 or consent of instructor.

451-4 Sociology of Language and Signs. (Same as Speech Communication 446.)

Introduction to sociological semiotics with reference to such figures as Eco, Foucault, Derrida, Baudrillard, Saussure, Habermas, the ethnomethodologists. Emphasis on the place of language and signs in sociological explanation.

454-4 Sociology of Science. Emphasis on the origins and growth of science in historical perspective, reciprocal relations between science and society in the 20th Century, science as a social system, differentiation within and relations between disciplines, and implications of the social organization of scientific research and funding. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

460-4 Sociology of Medicine. Examination of the sociological factors involved in health and illness the role of medicine in society, the organization of medical care and health institutions in the United States, and the prospects for sociological research in this area. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

465-3 Sociology of Aging. The adult life cycle from a sociological perspective, with emphasis on the later stages of adulthood. Special topics on aging include demographic aspects, family interaction, ethnicity, and cross-cultural trends.

471-4 Introduction to Social Demography. Survey of concepts, theories, and techniques of population analysis; contemporary trends and patterns in composition, growth, fertility, mortality, and migration. Emphasis is on relationship between population and social, economic, and political factors. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

472-3 The American Correctional System. (See Administration of Justice 472.)

473-4 Juvenile Delinquency. (Same as Administration of Justice 473.) Nature of sociological theories of delinquency; analytical skills in studying the delinquent offenders; systematic assessment of efforts at prevention, control, and rehabilitation in light of theoretical perspectives. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

475-4 Political Sociology. (Same as Political Science 419.) An examination of the nature and function of power in social systems at both the macro- and micro-sociological levels of analysis, the social bases of power and politics; and various formal and informal power

structures; the chief focus will be on American society. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

497-4 Senior Seminar. Contemporary issues in sociology and the analysis of these issues. Prerequisite: senior standing with 20 hours in sociology (including 301), or consent of instructor. Elective Pass/Fail.

498-1 to 4 Independent Research. With a faculty member the student arranges a research topic resulting in a paper or report. Prerequisite: senior standing with 20 hours of sociology (including 301), and consent of instructor. Elective Pass/Fail.

498H-1 to 4 Honors Independent Research. Advanced research study of a problem. Not for graduate students. Prerequisite: senior standing with 20 hours in sociology (including 301) and consent of department and honors standing. Elective Pass/Fail.

501-4 Survey of Sociological Theory. From synthetic philosophy to analytic sociology: the development of sociology as a science of society, with special considerations of the major schools and trends.

502-4 Seminar on Theoretical Systems in Sociology. Concentrated, in-depth analysis of selected theoretical systems in sociology. Topic will vary by agreement of participants. Prerequisite: admission to doctoral program in sociology or consent of instructor.

506-4 Seminar on Contemporary Sociological Theory. Recent trends in sociological theory; current approaches to the construction and application of theoretical models and their relations to empirical research. Prerequisite: 501 or consent of instructor.

512-5 Sociological Research. Application of the scientific method of sociological problems. The role of theory. Principles of good research design, measurement, sampling, and research. Under guidance of instructor, students perform a complete research project from devising a research project to writing a scientific report of the project. Prerequisite: at least one course in statistics and five in sociology.

513-4 Methods of Historical Sociology. Investigation of methodological similarities and differences between historical sociology, social history, and social anthropology in the study of historic social changes. Various methodological techniques will be used by the students in seminar papers which analyze specific sets of historic social changes.

519-4 Methodological Foundations of the Social Sciences. Seminar on selected problems of social science methodology; the nature of social phenomena; basic problems of epistemology, concept formation, and logic of scientific procedures. Prerequisite: consent of instructor.

521-4 Seminar in Social Psychology. In-depth examination of specific theoretical systems or substantive problems in social psychology. Students wishing specific information on the topic of the seminar should

consult with the instructor for more detail. Prerequisite: 426 or consent of instructor.

522-4 The Sociology of Small Groups. The study of the small group as a small-scale social system. The interrelationship between selected patterned properties of groups such as interaction, emotion, norms, beliefs, values, and myths as the group encounters and attempts to deal with basic problems of group development. Prerequisite: 426 or consent.

526-8 (4, 4) Quantitative Methods in Sociology. (a) Linear causal models as a tool in theory and research. Central tendency, variation, covariation, and correlation. Bivariate and multivariate regression models. Path analysis and related techniques. Bivariate and multivariate statistics for nominal and ordinal measures. (b) Application of linear models. Linear models of measurement error, reliability, and validity. Models of reciprocal causation feedback and control. The identification problem. Must be taken in a, b sequence. Prerequisite: graduate standing.

529-4 Sampling and Inference in Social Research. Probability. Sampling distributions. Sampling designs. Point and interval estimation. Analysis of variance. Hypothesis testing: parametric and nonparametric approaches. Power and efficiency of statistical tests. Prerequisite: consent of instructor.

530-2 to 12 (2 to 4 per topic) Topical Seminar in Sociology. Content varies with interests of instructor and students. Prerequisite: consent of instructor.

532-4 Urban Social Structure. Theories of urban social structure and change, with emphasis on the comparative analysis of ecological and normative processes of integration and disintegration in modern urban communities.

537-4 Sociology of Law. An analysis of the role of law in society. Special emphasis will be given to the relationships between law and social organization, social control, value systems, and social change; consideration will be given to research in the field. Prerequisite: 15 hours of sociology and consent of instructor.

539-4 Seminar in Complex Organization. Emergence and structure of bureaucratic organization. Bases of authority, systems of formal and informal relations, unanticipated consequences. Occupations and professions in complex organizations, line-staff relations, technological changes, and work roles.

542-4 Seminar on the Family. The family as a field of sociological study. Assessment of significant historical and contemporary writing. Prerequisite: 15 hours of sociology including 340 or consent of instructor.

543-4 Seminar in Family Variability and Change. An analysis of the structure, organization, and function of the family in several contemporary and primitive societies. Prerequisite: 15 hours of sociology including 340 or consent of instructor.

551-4 Sociology of Religion. Theoretical and empirical study of the origin, location, and

function of religious ideas and institutions in society.

562-4 Deviance and Disorganization. Critical study of sociological theories of social deviance and disorganization and their role in understanding pathologies like alcoholism, homicide, and suicide which exhibit marked variation in group rates. Prerequisite: 15 hours of sociology or consent of instructor.

564-4 Social Factors in Health and Illness. Examination of the significance of social organizational and social psychological factors in the occurrence and treatment of disease and illness. Consideration given to current health care issues, as well as to pertinent theoretical and empirical contributions in the area. Prerequisite: consent of instructor.

566-4 Sociology of the Community. A detailed analysis of theories and methods of research which have the community as their unit of analysis. Both case studies and comparative approaches will be included, and both rural and urban communities will be considered. Prerequisite: two sociology courses or consent of instructor.

572-4 Seminar in Criminology. (Same as Administration of Justice 572.) Critical study of important research and theoretical analyses. Prerequisite: consent of instructor.

574-3 to 4 Seminar in the Sociology of Education and Science. An international and comparative perspective. Focus on various topics in the sociology of education and science.

591-1 to 4 Individual Research-Supervised Research Projects. Open to graduate students with a major in sociology. Credit according to achievement. Prerequisite: consent of instructor and chairperson of department.

596-1 to 8 Readings in Sociology. Supervised readings in selected subjects. Prerequisite: consent of instructor and chairperson of department.

599-1 to 6 Thesis. Prerequisite: consent of chairperson.

600-1 to 32 (1 to 16 per semester) Dissertation. Prerequisite: consent of chairperson.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Special Education

400-3 Introduction to Special Education. Physical, mental, emotional, and social traits of all types of exceptional children and youth.

Effects of handicaps in learning situations. Methods of differentiation and techniques for rehabilitation. Case studies, observations, and field trips may be required.

401-3 Problems and Characteristics of the Behavior Disordered Children and Youth. Diagnosis, screening, classroom management, placement considerations, goals, and the effective use of ancillary services for the emotionally disturbed or socially maladjusted. Emphasis on the understanding of maladaptive behavior through principles of learning and behavior. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

402-2 Problems and Characteristics of the Mentally Retarded Child. Emphasizes a developmental approach to understanding and dealing with children who have mildly and moderately reduced mental abilities. Considers historical, theoretical, and practical factors pertinent to mental retardation. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

403-3 Problems and Characteristics of the Gifted Child. Designed to help teachers in the identification of and programming for gifted and talented children. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

404-3 Problems and Characteristics of the Learning Disabled Children and Youth. Behavioral, emotional, physical, and learning characteristics of children and youth with learning disabilities. Emphasis on receptive and expressive modalities for learning; theories dealing with causes and management. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

405-3 Education of the Preschool Handicapped Child. Emphasizes classroom procedures for enhancing development in children with developmental delay. Covers organization of the curriculum, goal setting, task analysis, lesson planning, and classroom organization. Practicum with preschool handicapped children is an integral part of this course. Prerequisite: 400, concurrent enrollment, or consent of chairperson.

406-2 Characteristics of the Severely Handicapped Child. Provides the basic developmental, psychological, intellectual, and curricular background essential to students wishing to teach in this area of special education. The course requires 30 hours of lecture and 15 hours of lab with severely handicapped children. Students will be videotaped for self critique and progress evaluation. Prerequisite: 400 or consent of department chairperson.

409-1 to 6 Cross-Cultural Studies. Seminar and/or directed independent study concerned with socio-cultural variables affecting the personality characteristics and educational needs of children who are diagnosed as mentally, emotionally, or physically handicapped. Prerequisite: 400, consent of instructor and department chairperson.

410-2 International Aspects of Services for the Handicapped. Focus on innovative ideas and practices in other countries in preschool programs, special education, rehabilitation, vocational training and employment, recreation, community living, organizational structures, and legislation.

411-3 Assessment in Special Education. Designed to develop competency in students in the administration, scoring, and interpretation of educational tests including the integration of findings from a number of tests. A laboratory fee of \$5 is required to cover the cost of materials. No textbook is required. Prerequisite: 400; Curriculum, Instruction, and Media 312, 315; Education 304c. Prerequisite or concurrent enrollment in 401, or 402, or 404.

412-3 Assessment and Remedial Planning for the Preschool Handicapped Child. An introduction to the assessment of preschool handicapped children including the specifics of screening, tests used by the classroom teacher, and observational procedures. A charge of \$5 for testing materials is required. No textbook is required. Prerequisite: 400 and 405.

414-3 Assessment and Planning for Youth in Special Education. Testings, evaluation, and program development for adolescent students with special learning problems. Purchase of testing materials costing approximately \$10 is required. Prerequisite: 400 and consent of department.

417-2 Methods and Materials for Teaching Behaviorally Disordered Children and Youth. Psychoeducational procedures used in teaching the behaviorally disordered child. Includes field trips, meetings with parents, and visits by resource persons from schools and agencies. Prerequisite: 411, concurrent enrollment in Education 312 and Education 400.

418-3 Methods and Materials for Teaching Educable Mentally Handicapped Children at the Elementary Level. Psychoeducational strategies for teaching the educable mentally handicapped child. Prerequisite: 411, concurrent enrollment in Education 312 and Education 400.

419-3 Methods and Materials for Teaching Learning Disabled Children and Youth. Psychoeducational strategies used in teaching children with learning disabilities. Prerequisite: 411, concurrent enrollment in Education 312 and Education 400.

421-3 Methods and Materials for Teaching Pre-School or Elementary Severely Handicapped Learners. Emphasis on methods of teaching those with severe handicaps. Minimum of one video-taping session, and individualized tutoring, are required of all participants. Prerequisite: 411 or 412; concurrent enrollment in Education 312 and Education 400.

423-2 General Procedures in Special Education. Deals with methods, materials, and instructional management practices common to the instruction of the handicapped.

Prerequisite: 411; concurrent enrollment in Education 312.

425-2 Home-School Coordination in Special Education. Consideration of the techniques used in parent interviews, conferences, and referrals by school personnel with parents of handicapped children. Prerequisite: 400 or consent of department chairperson.

430-3 Work-Study Programs for Handicapped Adolescents to Age 21. Deals with modifications of and additions to school programs to insure that they are appropriate to the needs of the mildly handicapped adolescent. Includes detailed coverage of joint work-study programs as preparation for vocational adequacy. Prerequisite: 400 and one of 401, 402, 403, or 404.

431-2 Work-Study Programs for Severely Handicapped Adolescents to Age 21. Deals with program offerings in public school special education programs designed to prepare the severely handicapped adolescent for maximum vocational adequacy. Prerequisite: 400 and one of 401, 402, 404, or 406; concurrent enrollment in Education 312.

456-4 (2, 2) Music for Exceptional Children. (See Music 456.)

490-1 to 5 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to selected seniors. Prerequisite: 400 and consent of department chairperson. Elective Pass/Fail.

500-3 Special Education Research Problems. Research design and methodology in special education. Prerequisite: consent of instructor.

502-2 Special Education Research Paper. Development and performance of research study under direction. Prerequisite: 500, consent of instructor.

503-3 Educational Program Delivery for Gifted and Talented Students. Planning implementation and evaluation of differential educational programs for gifted and talented students. Reviews historical through modern day approaches to the systematic delivery of educational services to exceptional populations. Evaluation methods for the expansion and refinement of gifted programming are planned. Prerequisite: 403.

505-3 The Pre-School Handicapped Child. Deals with the philosophy and practices involved in the development and maintenance of educational programs for pre-school age handicapped children in the community.

511A-3 Advanced Assessment and Remedial Planning in Special Education. Administration and interpretation of typical instruments used to gain information to be used in remedial planning for children in special education programs. Designed to provide students with thorough knowledge of testing procedures, this course will include supervised practicum in testing and development of remedial programs. Prerequisite: 411.

511B-3 Advanced Remediation in Special Education. Designed to provide the graduate

student with experience in designing and carrying through with a remedial program. Prerequisite: 511A.

512-3 Advanced Assessment and Remedial Planning for the Preschool Handicapped Child. Advanced diagnostics with preschool handicapped children. A clinic based practicum experience in the evaluation of preschool handicapped children. Prerequisite: 412, 405 or concurrent enrollment, and consent of instructor and chairperson.

513-3 Organization, Administration, and Supervision in Special Education. Emphasis upon the functions, underlying principles, and cautions to be observed in the organization and administration of special education. The selecting and training of teachers, problems of supervision, special equipment, transportation, cooperating agencies, and legal aspects of the problem. Prerequisite: 400, consent.

514-3 Simulation of Administrative Tasks in Special Education. Development of skills required of special education administrators and supervisors through the use of simulation materials focusing on these skills. Prerequisite: 400 and consent.

515-2 Itinerant and Resource Teaching in Special Education. The role, responsibilities, problems of the itinerant and resource teacher in special education. Alternate systems and models for providing educational experiences for handicapped children. Review of the role and responsibilities of other ancillary school personnel. Prerequisite: 410a, b, c, e; consent of instructor.

516-3 Advanced Assessment for Educationally Handicapped Youth in Special Education. Administration and interpretation of typical instruments used to gain information to be used in program planning for adolescents in special education programs. Designed to provide potential secondary teachers with thorough knowledge of testing procedures, this course will include supervised practicum in testing and development of remedial programs. Prerequisite: 411.

517-2 The Atypical Child and Social Agencies. A survey of social agencies contributing to the welfare and care of exceptional children. Emphasis is given to services rendered and to method of contact and costs. Specialists invited to appear before the class. Prerequisite: 400 and consent.

518-1 to 6 Workshop in Special Education. Typical workshops centered on current practices and new developments in special education. Designed to promote better understanding of the psychological and educational problems of exceptional children. Specialists used as consultants. Open to graduate students majoring in education, guidance, or special education with consent of instructor and department chairperson. Graded S/U only. Prerequisite: 400 and consent of instructor and department chairperson.

519-3 Career Development Opportunities for Educationally Handicapped Youth.

This course is designed to prepare special educators to understand the career needs of the educationally handicapped youth and the procedures for developing appropriate career services for such students. Prerequisite: 430.

550-3 Behavior Management of Exceptional Children and Youth. Describes assessment, implementation, and monitoring procedures involved with the use of behavior change techniques in special education programming. Emphasis will be placed on the actual implementation of behavior change techniques with handicapped school aged students in public school settings. Prerequisite: concurrent enrollment in 594 and Rehabilitation 406 or consent of instructor.

580-3 Master's Seminar: Issues and Trends in Special Education. Analysis of research, trends, and programs in the education of handicapped children. Open to graduate students in special education only. Prerequisite: 400, consent of instructor and department chairperson.

582-2 Post-Master's Seminar: Remedial Models in Special Education. Critical discussion of eight major intervention models used historically and currently with handicapped children in educational settings. Prerequisite: consent of instructor.

583-2 Post-Master's Seminar: Program Coordination in Special Education. Analysis of organizational principles and practices required for the creation and maintenance of programs to meet the needs of persons who are handicapped and require specialized educational programs within the school setting. Prerequisite: consent of instructor.

584-2 Doctoral Seminar: Research in Special Education. An analysis of purposes, approaches, design, methodology, and applications of experimental studies of handicapping conditions, as they relate to special education. Prerequisite: 582, 583.

585-2 Doctoral Seminar: Evaluation in Special Education. An analysis of the purposes, approaches, design, methodology, and applications of evaluative studies in special education. Prerequisite: 582, 583.

586-1 to 4 (1, 1, 1, 1) Proseminar in Special Education. A topical seminar providing for the systematic discussion of current research in the field of special education. Specific content is determined by participating faculty and students, relative to current faculty research and dissertations in progress within the department. Doctoral students will register for a total of four credit hours, one per semester, after which they will audit the course during the pursuit of their dissertation. Master's students admitted with consent of adviser and chairperson.

590-1 to 5 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to graduate students. Graded *S/U* only. Prerequisite: 400, consent of instructor.

591-2 to 5 Independent Investigation. A field study required of each student working for

the sixth-year degree. Conducted in a school system where full cooperation is extended. The study will involve selection of a problem, surveying pertinent literature, recording results, and appropriate interpretations and summaries. Prerequisite: consent of instructor.

594-1 to 6 Practicum in Special Education. Supervised experience in school or institutional programs for atypical children. Special research project. Open to graduate students only. Prerequisite: consent of instructor and department chairperson.

595-1 to 12 (1 to 6) Internship. The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Internship assignments include: (a) research and applied studies; (b) evaluation; (c) administration; (d) university teaching; (e) program planning and management; (f) supervision; and (g) specialized delivery systems. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors.

600-1 to 32 (1 to 16 per semester) Dissertation. Prerequisite: consent of chairperson.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Speech Communication

Courses in this department may require the purchase of additional textbooks or materials.

401-3 Communication Theories and Models. An introduction to theory construction and model utilization in communication research. Critical analysis of existing communication theories in the social sciences as a basis for generating new models. Emphasis on the heuristic nature and function of the language/speech act paradigm in communication studies.

411-3 Rhetorical Criticism. Designed to develop the student's ability to criticize public discourse, including speeches, written works, and the mass media.

421-3 to 9 (3, 3, 3) Studies in Public Address. Critical studies of speakers and issues relevant to social and political movements dominant in national and international affairs. A lecture, reading, and discussion

course. Students may repeat enrollment to a total of nine hours. Prerequisite: for undergraduates, 411 or consent of instructor.

430-3 Speech in Elementary Schools. Survey of normal speech development with emphasis on the elementary school years. Concept of speech as skill to basic reading, writing, and spelling. Psychological and sociological variables affecting language as it relates to school learning. Speech experiences supportive of the child's linguistic, intellectual, and social development.

431-3 Speech in Secondary Schools. Philosophy of speech education, and effective teaching of speech through curricular and extra-curricular work. Prerequisite: twelve hours of speech.

432-3 Secondary School Forensic Program. Designed to evaluate and plan the proper role of forensics in the secondary school and to prepare the students for their tasks as teachers and administrators in that program. Not for graduate credit. Prerequisite: 325, GSC 200.

433-3 Creative Drama for Children. Materials, techniques, and procedures for conducting sessions in informal drama with emphasis upon its contribution to the total growth and development of the child. Includes lectures, observations, student participation. Prerequisite: concurrent enrollment in 490f-1 or consent of instructor.

435-3 to 6 (3, 3) Topics in Creative Drama. An exploration of advanced theories and techniques for conducting sessions in informal drama. Topics vary and are announced in advance. Students may repeat enrollment in the course, since the topics change. Lecture, discussion, class projects, school visitations.

440-3 Language Behavior. Study of linguistic approaches to speech communication based on behavioral determinants, such as culture, history, speech community, value orientations, social perception and expression, and the nature and function of interpersonal transaction. Prerequisite: 340 or consent of instructor.

441-3 Intercultural Communication. Application of semiotic and cultural theories to language behavior. Emphasis on speech communication as an approach to the study of intercultural communication. Prerequisite: 320 or consent of instructor.

442-3 Psychology of Human Communication. Nature, development, and functions of verbal and nonverbal behavior; application of psychological theories and research to the communication process in individuals and groups. Emphasis on the systemic nature of communicative behavior.

443-3 General Semantics. Formulations from the works of Alfred Korzybski and from neo-Korzybskian interpreters are presented. General semantics is discussed as an interdisciplinary approach to knowledge. Relationships are made to contemporary problems in human affairs.

444-3 Language of Young Children. For

teachers of young children and students of language. Theory of the development of language with attention to maturational and environmental correlates. Study of children's spoken language encoding and decoding behavior in relation to development of secondary skills of reading and writing and to general cognitive development.

446-4 Sociology of Language and Signs. (See Sociology 451.)

451-3 Political Communication. (Same as Political Science 418.) A critical review of theory and research which relate to the influence of communication variables on political values, attitudes, and behavior. Prerequisite: 358 or consent of instructor.

452-3 Interpersonal Communication and the Mass Media. A review, synthesis, and analysis of communication theory and research which deals with the process, interactive nature of interpersonal and mass channels of communication. Prerequisite: 401 or consent of instructor.

460-3 Small Group Communication: Theory and Research. A critical examination of small group theory and research in speech communication. Emphasis is given to the development of principles of effective communication and decision-making in the small, task-oriented groups. Prerequisite: 261 or consent of instructor.

461-3 Laboratory in Interpersonal Communication I. Interpersonal communication is studied as human encounter. The philosophy and theoretical bases of existential phenomenological approaches to human communication are discussed. Projects are evolved by small groups that contribute to the understanding of human communication.

462-3 Laboratory in Interpersonal Communication II. Various theories of social and cultural change are explored. The role of interpersonal communication in the development of human consciousness is explicated. Projects are evolved by small groups that examine value and priorities of human nature and cultural nature.

465-3 Philosophy of Language. (See Philosophy 425.)

471-3 Prose Fiction in Performance. Study of prose fiction through analysis and individual performance. Includes scripting techniques for chamber theatre. Prerequisite: 370 or consent of instructor.

472-3 Poetry in Performance. The study of poetic form through analysis and performance. Prerequisite: 370, GSC 200 or consent of instructor.

474-3 Readers Theatre. A study of the theory and practice of interpreters theatre, with special emphasis on adapting and compiling scripts for group performance in readers theatre. Prerequisite: 370 or consent of instructor.

475-3 Interpreters Theatre Production. Theory and practice in presentational staging of prose, poetry, and drama. Includes directing

and performance experience in readers theatre and chamber theatre. Prerequisite: 471 or 474 or consent of instructor.

480-3 Studies in Organizational Communication. Study of communication systems and behavior with organizations. Demonstrates the relevance of communication to management operations, networks, superior-subordinate relations, production, employee morale, and organizational climates through the study of theory and research.

481-3 Public Relations in Cases and Campaigns. Advanced course in selected case studies provided by the Public Relations Society of America and other sources. Student groups design actual or simulated public relations campaigns through the four steps of research, planning, communications, and evaluation. Prerequisite: 381 and 382.

490-1 to 6 Communication Practicum. A supervised experience utilizing communication skills in a professional or career setting. Emphasis on the development of applied performance skills in the following areas: (a) public relations, (b) communication studies, (c) interpersonal communication, (d) oral interpretation of literature, (e) forensic activities, (f) creative drama, (g) political communication, (h) organizational communication, (i) language behavior, (j) instructional communication. May be repeated for credit. Undergraduates are limited to a total of six hours and graduate students to a total of three hours to be counted toward degree requirements. Prerequisite: consent of instructor and departmental adviser.

491-1 to 3 Independent Study in Communication. Readings, creative projects, or writing projects focusing on a theoretical study of communication. The independent study should normally be completed in one semester under the tutorial supervision of a faculty sponsor. Not for graduate credit. Prerequisite: twelve hours of speech, consent of instructor, and departmental adviser.

492-2 to 8 Workshop in Oral Interpretation. Summer offering concentrating in specialized areas of oral interpretation.

493-3 to 9 (3, 3, 3) Special Topics in Communication. An exploration of selected current topics in communication arts and studies. Topics vary and are announced in advance; both students and faculty suggest ideas. Students may repeat enrollment in the course, as the topic varies.

501-3 Introduction to Speech Communication Research. Survey of research methods utilized in the discipline of speech communication. Discussion of these methods as they apply to the various subject matter typologies. Introduction to basic conventions of research investigation and reporting.

502-3 Seminar: Quantitative Communication Research. Review and analysis of types of quantitative research and methods of data collection most relevant to the study of human communication. Prerequisite: 501 and

Guidance and Educational Psychology 506 or its equivalent.

503-3 Seminar: Phenomenological Communication Research. Review and analysis of the types of phenomenological research and methods of data collection relevant to the study of human communication. Prerequisite: 501 and 461 or 562 or equivalent.

510-3 to 6 (3, 3) Seminar: Rhetoric and Communication. An analysis of selected theories of communication, public address, and rhetoric. Emphasis on major contributors of historical or contemporary importance. Students may repeat enrollment to a total of six hours.

526-3 Seminar: Studies in Persuasion. The study of persuasion in social-political contexts. Exploration of contemporary research and selected theories in persuasion. Examination of philosophical-ethical questions related to persuasion. Readings, research, and discussions.

531-3 Seminar: Speech Education. Advanced study of selected problems in speech communication instruction. Analysis of research problems and methodologies in speech pedagogy research. Topics may vary from year to year. Prerequisite: consent of instructor.

539-3 Speech Communication at University Level. Analysis and practice of instructional methods. Focus on the development of instructional skills with specific applications to teaching the basic college speech communication course.

540-3 Seminar: Language, Culture, and Semiology. Examination of communication problems and research focusing on the relation among cultural values, communication behaviors in the speech community, and social exchange. Emphasis on the semantics and pragmatics of intercultural communication and social semiotic systems. Prerequisite: 440 or 441 or consent of instructor.

545-3 Seminar: Semiology and Semiotic Communication. Advanced study of sign, signal, and symbol systems in the phenomenology of communication. Systematic analysis of the metatheory relationship between expression and perception as manifest in verbal and nonverbal communication systems. Emphasis on semiology as a communication theory in the human sciences. Some consideration of related theories such as structuralism, interspecies communication, human/machine communication, and general systems theory. Prerequisite: 440 or 441 or consent of instructor.

561-3 to 6 (3, 3) Studies in Small Group Communication. Studies of group action, interaction, and leadership designed to apply small group theory and communication theory. Emphasis on the nature of group communication as exemplified in the laboratory model of the discussion/conference model. Students may repeat enrollment to a total of six hours.

562-3 Philosophy of Human Communication. (Same as Philosophy 562.) Advanced study of the philosophical theories and models

utilized in the human sciences to analyze, describe, and interpret communication as a paradigm of expression and perception. Emphasis on the nature of persons, consciousness, and social exchange as discussed by such contemporary schools of thought as existential phenomenology, semiology, behaviorism, structuralism, critical theory, hermeneutics, and conceptual analysis. Prerequisite: 461 or 462, or Philosophy 482 or 425 (same as Speech 465), or consent of instructor.

563-3 Studies in Interpersonal Communication. An investigation of recent theories and empirical research concerning interpersonal communication. Emphasis will be placed on analyses of relational development, maintenance, and change in the contexts of working relations, friendships, and families. Both analytic and quantitative perspectives on interactional processes will be considered.

571-3 Theoretical Perspectives in Interpretation. A study of the philosophical trends in contemporary interpretation theory, with emphasis on their historical development. Prerequisite: nine hours of interpretation or consent of instructor.

572-3 Critical Perspectives in Interpretation. An examination of the development of critical trends and an exploration of the critical process as it functions in the oral performance of literature. Reproduction fees: maximum \$3. Prerequisite: nine hours of interpretation or consent of instructor.

574-3 to 6 (3, 3) Studies in Interpretation. An exploration of selected current topics in the field of oral interpretation. May be repeated for a total of six hours. Prerequisite: twelve hours of interpretation or consent of instructor.

580-3 to 9 Issues in Organizational Communication and Public Relations. Advanced study and applications related to specific issues in (a) organizational communication, (b) public relations, and (c) political communication. May be repeated with change of topic area. Topics announced prior to each offering.

593-1 to 3 Research Problems in Communications. Independent research study with a theoretical focus under the tutorial supervision of a member of the graduate faculty. Prerequisite: consent of instructor and departmental adviser.

595-1 to 3 Research Report. One to three hours required of all non-master's students writing a research paper.

598-0 Proseminar in Human Communication. An open forum offered each semester for the systematic discussion of contemporary research in the field of communication arts and studies. Specific content is determined by participating faculty and students. Topics will usually be related to current faculty research or dissertations in progress in the department. Graded S/U only.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

600-1 to 36 (1 to 16 per semester)

Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded S/U or DEF only.

Theater

400-2 (1, 1) Production. Crew practicum for support of major department productions in all areas: costume, makeup, props, set construction, etc. Crew assignments made by department technical director early each semester. Roles in department productions may fulfill requirement. Must be taken in a,b sequence. Prerequisite: 300a,b.

402-6 (3, 3) Play Directing. (a) Introduction to directing. The history of the director; the evolution of the director into a position of predominance in modern theater hierarchy. The function of the director; an examination of theoretical viewpoint. Textual analysis; establishing the groundwork for the director's approach to production. Prerequisite: junior standing; 207, 217, and 311a; or consent of instructor. (b) The principles of play direction including play selection, analysis, and patterning of auditory and visual elements of production. Extensive scene work in class; direction of a full one-act play by the end of the semester. Prerequisite: 402a or consent of instructor.

403-4 (2, 2) Advanced Theater Speech Studies. (a) Standard stage speech. Advanced training in vocal variety and flexibility. Expanded work with phonetics and application to play readings, poetry, etc. Prerequisite: 303b for undergraduates, no prerequisite for Master of Fine Arts acting students. (b) Vocal characterization. Applications of standard speech to characterization, verse plays, etc. Includes an approach to common American dialects. Prerequisite: 403a.

404-3 Theater Management. Discussion of legal and financial aspects concerning the professional and community theaters of the United States. Consideration of and practice in managerial activities of an educational theater including administration, purchasing, and accounting practices, direct sales, publicity, promotion, and public relations.

407-3 Stage Design. The design of settings for the stage and other dramatic media. Prerequisite: 207 and 307. Elective Pass/Fail.

410-3 Children's Theater. Study of methods and their practical application of introducing children to theatre and theatrical productions as an art form. Includes the writing of a short play for children. Recommended for majors in education programs.

411A-3 Playwriting-The One-Act Play. Principles of dramatic construction and practice in the writing of two one-act plays. Problems of adaptation are treated. Individual plays have the opportunity to be produced in the theater's Quarter-Night program for new plays. Prerequisite: one course in dramatic literature for non-majors and graduates; 311a for undergraduate theater and speech communication majors; or consent of instructor. Elective Pass/Fail.

411B-3 Playwriting-The Full-Length Play. Principles of dramatic construction and practice in the writing of a full-length play, encompassing such varied types as the children's play, the musical, the outdoor historical drama, etc. In special cases, students may elect to write three short plays. Prerequisite: 411A or consent of instructor for non-majors; 311a for undergraduate theater majors. Elective Pass/Fail.

413-4 (2, 2) Advanced Stage Movement. (a) Special movement problems encountered by the actor: falls, combat, mime, working with costumes, props, music. Continued work in characterization and movement skills mastery. Prerequisite: 213a, b for undergraduates; no prerequisite for Master of Fine Arts students. (b) Period styles of movement: bows, curtsies, postures, and dances. Research and practical application. Prerequisite: 413a.

414-6 (3, 3) Costume Design. (a) History of western costume from Greek to Renaissance and its adaptation to stage use. Theory and principles of theatrical costuming. Application of principles of design and color. Designs for single scenes. (b) History of costume, Renaissance through 19th century. Style, fantasy, and the comic in costume design. Principles of dramatic theory and criticism as applied to costume design. Evaluation of research tools. Methods and procedures in designing costumes for a complete show. Prerequisite: 414a.

417-6 (3, 3) Advanced Acting. (a) Advanced scene study. Scenes from the Poetic Realists (Ibsen, Chekhov, Strindberg, etc.) Emphasis is on the ability to build and sustain a character. Audition technique is explored. Prerequisite: 317B. (b) Elizabethan style. Scenes and soliloquies from the plays of Shakespeare, Marlowe, Jonson. Fencing and stage combat applied to scene work. Prerequisite: 417a.

418-3 Advanced Stage Lighting. Investigation of stage lighting design, theory, and professional practice. Special attention will be focused on color theory and its application to stage lighting. Three hours lecture and laboratory to be arranged. Prerequisite: 218a, b, c, or consent of instructor.

454-3 American Theater. The development of American theater and its environment from colonial times to the present. Includes a study of the American musical theater from pre-minstrels through contemporary music-drama.

489-3 to 6 Theater-Television Workshop. Advanced work in the producing, acting, writing of original television drama. Prerequisite: C grade in Radio-Television 300M, 300P

and consent of instructor for radio-television majors; consent of instructor for theater and other majors.

500-2 Introduction to Research Methods. An introduction to the principles and methods of the various types of research in theater. The student is encouraged to focus on the research demands of a selected area of interest within the degree program pursued. One objective is the formulation of a research problem and prospectus. Prerequisite: graduate standing.

501-2 Contemporary Developments. A survey of the significant developments in theater and related arts from the beginning of the 19th century to the present through the study of documentary material, critical works, and selected plays. Individual reports, guest lecturers, and lectures provide focus on selected areas. Required reading encompasses a broad spectrum of subjects. Prerequisite: graduate standing.

502-3 Advanced Directing. Emphasis on practical directing problems and concerns of individual student through research, rehearsal, and performance. Includes survey of directing theories and practices with laboratory application of directing techniques.

503-4 (2, 2) Graduate Theater Speech Studies. (a) Dialects. Expanded training in American and foreign dialects. Includes representative readings from plays for laboratory work. Prerequisite: 403b. (b) Special problems in stage speech. Specialized topics which correspond to production season. May include advanced work with "period" plays and unique "style" considerations. Individualization. Prerequisite: 503a.

504-3 The Comic Theater. A study of comedic drama, theory, and criticism as applied to types of comedy with a focus on interpretation for the theater practitioner. Individual reports and scenes are assigned.

505-3 The Tragic Theater. An examination of tragic drama and criticism as related to the societies which produced such drama. Particular emphasis is placed upon the Athenian, Elizabethan, and modern theater.

511-3 Playwriting Workshop. A practical laboratory course in which playwriting students will have one or more original plays presented in staged readings or modified productions. Plays will be directed and, in part, acted by graduate directing/acting students also enrolled in the course. The workshop gathers a performance group for the presentation of the new plays. Student playwrights are expected to constantly improve their work before and after presentation, to attend rehearsals, to work closely with directors and actors. Plays will be evaluated in critique sessions. Restricted to graduate playwriting and directing/acting students in the theater program. Prerequisite: graduate standing; theater major; 411a and b or consent of instructor.

513-4 (2, 2) Stage Movement for Graduate Actors. Practical work in stylized movement: classic, commedia, and Elizabethan period

styles, ethnic theater, musical theater, slapstick, fantasy. Continued work on articulation of the actor's physical instrument. Must be taken in a,b sequence. Prerequisite: 413b.

517-6 (3, 3) Graduate Acting Studio. (a) Greek classical style. Scenes, soliloquys and choral odes from Aeschylus, Sophocles, and Euripides. Research into ancient methods of performance as well as developing an understanding of contemporary relevance. Prerequisite: 417b. (b) Presentational acting. Commedia and Brechtian techniques. Cabaret theater. Musical comedy. Prerequisite: 517a.

522-1 to 12 SIU Summer Theater. Practical experience in summer stock play production. Performance or technical work in SIUC Summer Theater only. Maximum of eight hours in any one summer. Prerequisite: audition and consent of instructor.

526-3 to 12 (3 per topic) Seminar in Theater Arts. Special topics of interest to advanced students. Subject is determined by department and instructor. Areas: (a) Performance. (b) Theory, criticism, and playwriting. Seminar in same area may be taken twice. Prerequisite: consent of department and instructor.

530-1 to 12 Independent Study. Independent work on selected problems in academic or blend of academic and creative research. A maximum of three credit hours may be taken for a single project. Prerequisite: consent of area adviser and instructor.

550-2 to 6 (2 per topic) Topical Seminar. In-depth studies of topics of special interest to advanced students concerning individual or groups of playwrights, directors, designers, and their techniques and theories. Topic is determined in advance by the instructor. Prerequisite: consent of department.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

600-1 to 36 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Vocational Education Studies

402-3 Introduction to Office Information Systems. An introduction to the integrated office concept investigating the functions of data processing, records management, electronic mail, word processing, and reprograph-

403-3 Microform Systems An introduction to the use of microforms in the management of information flow. Emphasis is placed on analysis of application, effectiveness, and cost of available microform systems, techniques, and equipment. Not for graduate credit.

404-3 Analysis of Office Systems. An investigation of procedures and systems used in various types of offices, including a study of work flow, the processing of words, office personnel and their responsibilities, and the role of office functions in the total business society.

405-3 Office Management. Principles of management applied to office problems. Emphasis on the role of the office in business management; office organization; physical facilities and layout of office, office services, procedures, standards, and controls; records management.

407-2 Records Administration. Methods and systems of controlling, storing, retrieving, and disposing of records. Application of principles to such records as medical, legal, educational, industrial, and governmental.

410-2 Principles and Problems of Business Education. A study of the fundamentals of business education; its relation to business, to general education, and to vocational and career education; its history, current status, and trends; special emphasis on objectives and curriculum problems.

411-2 Teaching Classes Related to Experiential Business Education. For those who plan to become teacher-coordinators of vocational cooperative education programs. Emphasis is placed upon the construction and presentation of subject matter and materials used to teach basic marketable skills to secondary and post-secondary students. Prerequisite: 210.

412-2 Teaching Data Processing. Instructional methods and materials for and the evaluation of pupil progress in data processing. Prerequisite: 306 or Electronic Data Processing 101 or equivalent.

415-3 Curriculum and Materials in Marketing Education. A study of, and application of principles of curriculum development and curriculum materials for high school, adult, and post-secondary programs in marketing and distributive education. Prerequisites: Marketing 304, 363, and 401.

418-3 Teaching Marketing/Distributive Education. For those who plan to become teacher-coordinators of programs in marketing and distributive education. Emphasis is on instructional methods, facilities, student organizations (DECA), operating school stores, and project plans. Prerequisite: 415.

428-3 Home Economics for Elementary Teachers. Identification and development of meaningful home economics related experiences appropriate for various levels of elementary curriculum. Interpretation of current vocational education legislation and trends affecting elementary programs.

431-3 Demonstration and Laboratory

Techniques in Home Economics Education. Practice in planning and carrying out instructional demonstrations in home economics for youth and adults. Use of audio-visual aids and hand-outs. Procedures for laboratory and guided practice to develop psychomotor skills. Attention given to TV presentations. Possible expense for materials to use in classroom demonstrations \$5 to \$8.

433-3 Women and the Politics of Education. Ways of organizing to implement legislation for social needs. How to have input into decisions which affect the educational community—reimbursement, grants, funding. The need, impact, and opportunity for careers in public service as these relate to individual, family, and societal needs. Field trips.

460-3 Occupational Analysis and Curriculum Development. The first of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Includes analyzing occupations and jobs, specifying objectives, and developing curriculum. (b) Business education, (d) industrial education, (e) health occupations education.

462-3 Teaching Methods and Materials. The second of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Concerned with instructional methods and materials unique to vocational and occupational education. (d) Industrial education, (e) health occupations education.

463-3 Assessing Vocational Student Progress. Development and use of evaluation instruments to assess occupational student growth. Use of systems approach to course design, criterion-referenced and norm-referenced objectives, and four taxonomies of educational objectives in development of written tests, laboratory and work station performance tests, and attitude measures. Data are used for evaluation of student progress and program modification. Prerequisite: 460.

464-3 Special Needs Learners and Work Education. Theoretical and applied concepts in teaching special needs learners. Affective aspects of learning are emphasized. Curricula and teaching materials are examined and prepared. Field trips.

466-3 Principles and Philosophies of Vocational Education. Historical and philosophical foundations of vocational education. The nature and role of vocational education in preparing people for the world of work.

472-3 Organizing Cooperative Vocational Education. Introduction to cooperative vocational education including history, rationale, legislative basis, and goals and objectives. Investigation into the competencies required for developing programs, public relations, and evaluation of cooperative vocational education. Introduction of student selection and management of cooperative vocational

education. Fulfills three semester hours of the six required for State of Illinois certification.

473-3 Coordinating Cooperative Vocational Education. Overview of cooperative vocational education. Investigation into the competencies required for the establishment, implementation, and coordination of cooperative vocational education to include selection and maintenance of training stations, student placement, related instruction in cooperative vocational education, and the management of cooperative vocational education programs. Fulfills the remaining three semester hours of the six required for State of Illinois certification. Prerequisite: 472.

474-3 Individualized Vocational Instruction. Study of the theory, characteristics, appropriateness, and evaluation techniques of individualized programs. Will include a review of the current state of individualized instruction in education for work programs.

478-3 Contemporary Principles and Management of IA Programs. Study of contemporary approaches to the teaching of industrial arts including objective philosophies, advantages, and disadvantages; shop or laboratory design and organization; and the management of programs in shops or laboratories. Not for graduate credit. Prerequisite: junior standing.

480-3 Teaching Consumer Education. Principles of teaching consumer education in all settings. Emphasis on meeting state requirements for teachers of consumer education in Illinois. Selection and study of course content, preparation of instructional materials; organization and arrangement of units of study; and planning and evaluation program.

484-3 Adult Vocational and Technical Education. A study of adult vocational and technical education as offered in a variety of educational settings. Major topics include organization, funding, teaching, student characteristics, and evaluation. Prerequisite: consent of adviser.

486-3 (1, 1, 1) Post-Secondary Vocational-Technical Teaching. Contemporary approaches to teaching vocational-technical education in post-secondary institutions and agencies. (a) Orientation to and preparation for teaching occupations; (b) situations and issues which arise in professional education sessions; (c) interpersonal relations in teaching and other educational assignments. Not for graduate credit.

488-3 Initiating Vocational Student Placement and Follow-up. Planning, implement, and evaluating a school-based placement system for secondary and post-secondary vocational, technical, and adult education students.

489-3 Developing Vocational Student Placement and Follow-Up. Developing and using internal and external resources in a functioning placement and follow-up program. Prerequisite: 488.

490-1 to 4 Readings. Supervised reading for

qualified students. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: consent of instructor and program coordinator.

491-1 to 5 Advanced Occupational Skills. Modern occupational practice in selected fields. For experienced professionals seeking advanced techniques in specialized areas of vocational education. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: intermediate level study in the specialty.

494-1 to 4 Workshop. Study of current issues of importance to vocational, occupational, and career education teachers, supervisors, and administrators. Emphasis on each workshop will be identified in each workshop announcement. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education.

495-2 to 12 Teaching Internship. Internship teaching in vocational programs in approved centers. The intern teacher will follow the program of the supervising teacher in both regular and extra class activities. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: ten hours of 395 and three hours of teaching methods.

497-2 to 6 Practicum. Applications of vocational, occupational, or career education skills and knowledges. Cooperative arrangements with corporations and professional agencies to study under specialists. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: twenty hours in specialty.

498-2 to 5 Special Problems. Assistance and guidance in the investigation and solution of vocational, occupational, or career education problems. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: consent of instructor and program coordinator.

511-2 Improvement of Instruction in Consumer and Basic Business Subjects. Designed for the experienced teacher who is interested in the study of curriculum and teaching problems in the consumer education and basic business areas. Deals with teaching procedures, instructional materials, tests and evaluation, and organization of teaching units and projects.

512-2 Improvement of Instruction in Secretarial Subjects. Designed for the experienced teacher who is interested in the study of curriculum and teaching problems in secretarial subjects. Deals with teaching procedures, instructional materials, tests, and evaluation. Prerequisite: 311, or 312, or 313.

518-3 Home Economics Programs in the Schools. Curriculum development in voca-

tional home economics is the focus. Units in family life education, consumer-homemaking, and occupational programs are developed by students for use in their professional responsibilities. Offered alternate years.

520-3 Trends and Issues in Home Economics Education. Analysis and appraisal of current trends, problems, and issues in the field. Attention is given to implications for teachers.

521-3 Advanced Methods of Teaching Home Economics. Recent trends in methodology based on research and experimentation. Attention given to methods which promote cognitive, affective, and psychomotor learnings. Preparation of materials for special interests of students. Offered alternate years.

561-3 Research Methods. Basic research methods and techniques in the design, investigation, and reporting of research studies relating to education for work.

562-3 Legislation and Organization. Historical and contemporary thought and practice regarding federal and state legislation related to education for work. Legislators are used as resource persons. Required for supervisors.

564-3 Program Evaluation for Work Education. Student, faculty, and program evaluation. Accountability and measurement of stated learning outcomes. Assessing psychomotor behavior in addition to the more common cognitive and affective domains. Development and construction of pertinent and effective evaluation instruments.

566-3 Administration and Supervision. Nature, function, and techniques of administration and supervision of education for work programs at all levels.

568-3 Facilities Planning. Principles and practices of planning classrooms and laboratories for various education for work programs. How to work with administrators, staff, and paid professionals to assure judicious location and design of facilities.

572-3 Trends and Issues in Cooperative Vocational Education. Theoretical basis of, and trends and issues in cooperative vocational education (CVE). Historical research into CVE, current directions, and related literature. Investigations into development, implementation, and evaluation of CVE programs. Concentration on administration and supervision of major components. Special emphasis on developing a CVE program. Prerequisite: 472.

Occupational Information. The role of instructional and supervisory personnel in the total occupational information system. Kindergarten to adult.

576-6 (3, 3) Policy Implementation and Supervision. Planning, implementing, and controlling local education agency components of state and federal occupational programs. (a) Objective program planning, leadership, communications. (b) Management information systems, financial decisions, staffing patterns.

578-3 Programs in Diverse Settings. Similarities and dissimilarities of education

for work programs in public/private, civilian/military, union/management, and other settings. Expectation of instructional and supervisory personnel. Professional contributions of post-secondary teachers.

580-3 Characteristics of Clientele. Familiarization with the characteristics and programming needs of clientele served by various education for work programs.

584-3 Curriculum Foundations for Work Education. Acquaints students with different factors that influence, direct, and shape curriculum as it pertains to the work-oriented aspects of school and society. Topics include law and the curriculum, philosophies, and organizational models, differing approaches by grade level and setting, and the development of work-related curriculum.

586-3 Adult Vocational Programs. Philosophy of adult education; current organizational patterns of adult programs; unit planning, methods, techniques, and resources.

588-3 Performance-Based Professional Development. Key concepts, terminology, advantages, limitations, and techniques for using performance-based teacher education. Major performance-based teacher education models. Procedures for implementing pre-service and in-service programs. Published learning packages are used to develop skill in teaching in and managing performance-based teacher education programs. Prerequisite: admission to the Ph.D. program.

590-1 to 9 Readings. Supervised readings in selected advanced subjects. Prerequisite: consent of instructor.

591-1 to 9 New Developments. Recent developments and trends in various aspects of education for work. Instruction provided by recognized authorities.

592-1 to 6 Recent Research. Review of selected action-oriented research and its applications by practitioners.

593-1 to 3 Individual Research. The selection and investigation of a research topic culminating in a paper satisfying the research requirement for a Master of Science in Education degree. Prerequisite: consent of instructor.

594-3 Advanced Research Methods. Development of research competencies and preparation of proposal for thesis or dissertation research. Familiarity with research in various foundation areas of education for work.

595-1 to 16 Professional Internship. Supervised professional experience in appropriate educational settings. May be done on- or off-campus.

598-1 to 6 Special Investigations. Selection and investigation of a problem: use of relevant sources and techniques; collection and analysis, evaluation, and interpretation of data, and the writing of a report of the investigation for students whose particular needs are not met by existing classes. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 36 Dissertation.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Zoology

Students enrolled in zoology courses may incur field trip or laboratory expenses of \$5 to \$25.

400-3 Cell Biology of Development. Cellular molecular mechanisms of embryogenesis and differentiation. Examination of the cell as a component of interacting tissues constituting the developing organism. Prerequisite: consent of instructor, 300 or advanced standing in biology.

402-3 Natural History of Invertebrates. Introduction to ecology, intraspecies communication, and interspecies relationships of invertebrate animals. Recommended for teacher preparation programs. Two lectures and one 2-hour laboratory per week. Cost of \$10 to \$20 may be incurred by student. Offered fall term. Prerequisite: 220a.

403-3 Natural History of Vertebrates. Life histories, adaptations, and identification of fish, amphibians, reptiles, birds, and mammals, emphasizing local species. Recommended for teacher preparation programs. One lecture and two 2-hour laboratories per week. Offered Spring semester. Prerequisite: 220b or consent of instructor.

405-3 Systematic Zoology. Theory and procedure of classification; population taxonomy; variation and its analysis; rules of zoological nomenclature; taxonomic publication. Three one-hour lecture-discussion meetings per week. Prerequisite: 220a, b and consent of instructor.

406-3 Protozoology. Taxonomy, cytology, reproduction, and physiology of unicellular animals. Laboratory methods for culture and study. One lecture and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered fall semester. Prerequisite: 220a.

407-4 Parasitology. Principles, collection, identification, morphology, life histories, and control measures. Two lectures and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered spring semester. Prerequisite: 220a.

408-3 Herpetology. Taxonomic groups, identification, morphology, and natural history, of amphibians and reptiles. One lecture and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered fall semester. Prerequisite: 220b.

409-4 Vertebrate Histology.

Microscopic structure of organs and tissues with emphasis on mammalian material. Two lectures and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered spring semester. Prerequisite: 10 to 12 semester hours of biological science.

410-6 (3, 3) Vertebrate Paleontology.

History of vertebrate animals in terms of their morphological change, geological succession, and ecological relationships. (a) Fossil fishes, amphibians, reptiles, and birds. (b) Fossil mammals. Two lectures and one 2-hour laboratory per week. Cost of \$5 may be incurred by student. Offered (a) fall; (b) spring semesters. Prerequisite: 220b.

413-6 (3, 3) The Invertebrates. (a) Structure, phylogeny, and habitats of the lower invertebrates through lophophorates and deuterostomes except echinoderms. (b) Structure, phylogeny, and habitats of the higher invertebrates including echinoderms, molluscs, annelids, and arthropods. Three 2-hour laboratories per week. Cost of \$5 may be incurred by the student. Offered spring semester, (a) alternate even years; (b) alternate odd years. Cost of \$5 may be incurred by student. Prerequisite: 220a.

414-4 Freshwater Invertebrates. Taxonomic groups, identification, distribution, and habitats of the North American freshwater invertebrate fauna. Two lectures, two 2-hour laboratories per week. Offered fall semester. Cost of \$15 to \$20 may be incurred by student for field trips. Prerequisite: 220a.

415-3 Limnology. Lakes and inland waters; the organisms living in them, and the factors affecting those organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Cost of \$15 to \$20 may be incurred by student. Offered fall semester. Prerequisite: 220a.

421-4 Histological Techniques. Methods of preparing animal tissue for microscopic study and learn theories of staining and histochemistry. One lecture and two 3-hour laboratories per week. Cost of \$15 may be incurred by student. Offered fall semester. Prerequisite: 10 semester hours of biological science.

426-3 Comparative Endocrinology. Comparison of mechanisms influencing hormone release, hormone biosynthesis, and the effects of hormones on target tissues. Includes ablation and histology of glands and chemical and bio-assays with vertebrates and invertebrates. Two lectures and one 2-hour laboratory per week. Cost of \$5 to \$10 may be incurred by student. Offered spring semester. Prerequisite: consent of instructor.

460-2 Upland Game Birds. Identification, life history, ecology, and management. One lecture and one 2-hour laboratory per week; there will be three or four Saturday field trips. Cost of field trips up to \$25 per student. Prerequisite: 220b or consent of instructor.

461-3 Mammalogy. Taxonomic groups, identification, and natural history of mam-

mals. One hour lecture and two 2-hour laboratories per week. Cost of \$10 may be incurred by student. Offered fall semester. Prerequisite: 220b.

462-2 Waterfowl. Identification, life history, ecology, and management. One lecture and one 2-hour laboratory per week; there will be three or four Saturday field trips. Cost of field trips up to \$25 per student. Prerequisite: 220b or consent of instructor.

465-3 Ichthyology. Taxonomic groups, identification, and natural history of fishes. Two lectures and one 2-hour laboratory per week. Cost of \$10 may be incurred by student. Offered spring semester. Prerequisite: 220b.

466-3 Fish Management. Sampling, age and growth, dynamics, habitat improvement, manipulation of fish populations and management of freshwater and marine fish stock. Two lectures per week and one 4-hour laboratory alternate weeks. Cost of field trips up to \$25 per student. Offered fall semester. Prerequisite: 10 hours of biological science.

467-3 Ornithology. Classification and recognition of birds and the study of their songs, nests, migratory habits, and other behavior. One lecture and one 4-hour laboratory per week. Cost of field trips may be up to \$20 per student. Offered spring semester. Prerequisite: 220b.

468-4 (2, 2) Wildlife Biology. Basic concepts and techniques employed in managing wildlife populations and their associated ecosystems. A basic ecology course is desirable as background for this course. (a) Principles. Two 1-hour lectures per week. (b) Techniques. One 4-hour laboratory session per week, three or four of which will be field trips on Saturdays. Cost of field trips up to \$25 per student may be incurred. Offered fall semester. Prerequisite: 10 semester hours of biological science; plus for zoology majors, concurrent enrollment in 468b.

471-3 Entomology. Structure, classification, and life histories of insects. One lecture and two 2-hour laboratories per week. Offered fall semester. Cost up to \$20 may be incurred by student for field trips. Prerequisite: 220a.

473-3 Aquatic Entomology. Structure, classification, and biology of aquatic insects. One lecture and two 2-hour laboratories per week. Cost up to \$20 may be incurred by student. Offered spring semester. Prerequisite: 220a.

478-3 Animal Behavior. Biological basis of the behavior of animals. Two lectures and one 2-hour laboratory per week. Offered fall semester. Prerequisite: one year of biological science or permission of instructor.

479-2 to 5 Concepts in Animal Behavior. Terms and concepts relevant to the study of animal behavior. Guided self-instructional format, with two 1-hour and one 3-hour period scheduled weekly, primarily as question-answer and evaluation sessions. Offered alternate spring semester (odd years). Prerequisite:

one year of biological science or permission of instructor.

480-2 to 5 Research Methods in Animal Behavior. Skills relevant to doing research in animal behavior. Guided self-instructional format, with two 3-hour periods scheduled weekly, primarily as question-answer and evaluation sessions. Cost of up to \$25 may be incurred by student. Offered alternate spring semester (even years). Prerequisite: at least two hours of *B* work in 478 or 479, or permission of instructor.

482-1 Zoology Seminar for Seniors. Classical and contemporary topics in zoology. This requirement will normally be met by participating in the regular meeting of the seminar. In lieu of seminar attendance and with consent of departmental chairperson, the student may elect to prepare and give an oral presentation at a special seminar on an agreed upon research topic. One meeting per week. Offered fall, spring, summer semesters. Not for graduate credit. Prerequisite: senior standing or 24 hours of life science completed. Mandatory Pass/Fail.

496-2 to 4 Zoology Field Studies. A trip of four to eight weeks to acquaint students with animals in various environments and/or with methods of field study, collection, and preservation. Cost of \$25 may be incurred by the student. Offered fall, spring, summer semesters. Prerequisite: consent of department.

508-2 Helminthology. Identification, structure, physiology, and life history of parasitic worms. Two lectures per week. Prerequisite: consent of instructor.

512-2 Animal Geography. Considers the effects of historical and ecological factors on animal distribution. Two meetings per week. Prerequisite: consent of instructor.

514-3 Advanced Entomology. Morphology, physiology, systematics, and distribution of insects. One lecture and two 2-hour laboratories. Cost of \$5 may be incurred by student. Prerequisite: 471.

520-3 Advanced Invertebrates. The nature and life of invertebrate animals with emphasis on comparative form, function, behavior, and occurrence. Three 2-hour meetings per week. Prerequisite: consent of instructor.

521-3 Advanced Limnology. The physical, chemical, and biological factors affecting organisms in streams. Cost of \$10 may be incurred by student. Two lectures per week and one 4-hour laboratory alternate weeks. Prerequisite: 415 and consent of instructor.

525-3 Cytology. (Same as Botany 525.) An analysis of the subcellular and cytochemical organization of the cell. Structural-functional aspects of organelles, membranes, and other cellular components, their relationship to the metabolic nucleus, substructural organization of hereditary material, and subcellular aspects of mitosis and meiosis are emphasized. Two lectures and one laboratory per week.

530-3 Wildlife Diseases. Introduction to the causes and nature of diseases of wildlife with

emphasis on wild mammals and birds. The relationship of disease to the population ecology of species will be emphasized further. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.

540-3 Factors in Animal Reproduction. Genetic and physiological factors in determination, differentiation, and modification of sex in animals. Three lectures a week. Prerequisite: consent of instructor.

542-3 Osteology. Modification of the vertebrate skeleton as a result of growth, functional adaptation, and phylogenetic relationship. Two lectures and two 1-hour laboratories per week. Prerequisite: consent of instructor.

561-3 Game Mammals. Natural history and management. Two lectures and one 2-hour laboratory per week. Cost of \$5 may be incurred by student. Prerequisite: consent of instructor.

566-3 Fish Culture. Production of game, food, and bait fishes. Design of facilities, chemical and biological variables, spawning techniques, diseases and nutrition. Two lectures per week and one 4-hour laboratory alternate weeks. Cost of \$5 may be incurred by student. Prerequisite: consent of instructor.

567-1 to 4 Techniques in Fish Culture and Fish Management. Course organized as modules. One credit for completion of 2 modules. Register any semester, one year to complete elected number of modules. Written report and examination required for each module. Cost of \$100 may be incurred by the student. Prerequisite: 466, or 566, or their equivalent.

573-3 Physiological Ecology. The role of physiological, morphological, and behavioral adaptations and adjustments in the ecology of vertebrate organisms with special emphasis on examining the energy balance and environment as it influences vertebrate ecology. Two hours of lecture and one 2-hour laboratory. Cost of \$10 may be incurred by student. Prerequisite: Biology 307 or equivalent, and consent of instructor.

577-2 Population Ecology. Principles of population dynamics as related to animals. Two lectures per week. Prerequisite: consent of instructor.

578-2 Population Genetics. Genetic structure of populations, factors causing changes, and principles governing rate and direction of change. Two lectures per week. Prerequisite: consent of instructor.

580-3 Advanced Taxonomy. The theory and practice of taxonomy, classification, and nomenclature. Three meetings per week, two hours each. Prerequisite: consent of instructor.

581-2 Zoological Literature. Diversity and functions of zoological literature, scientific writing, and the publication process. Two lectures per week. Prerequisite: graduate status in a biological science.

582-1 to 4 (1, 1, 1, 1) Graduate Zoology

Seminars. Special topics in zoology. Consult department for each semester's topic. One meeting per week. Prerequisite: consent of instructor and department.

583-1 Teaching Zoology in College. Methods, practices, and objectives in teaching zoology at the college/university level. Designed as part of the apprenticeship program for preparation of college teachers. Required of departmental teaching assistants. One hour lecture per week. Graded *S/U* only. Prerequisite: graduate status in a biological science.

585-36 (3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3)

Seminar. Advanced study of special topics in zoology. (a) Seminar in animal behavior. (b) Seminar in neurobiology of metazoa. Survey of the cytology and histology of nerve cells, and the sheath elements separately as they appear in organized tissues of metazoa. (c) Seminar in ecosystems. (d) Seminar in wetland ecology. (e) Seminar in wildlife ecology: impact of land use. (f) Seminar in fish biology. Survey of fish biology and ecology dealing largely with topics not covered in 465. Life history strategies, physiology, and other fundamental biological features of fishes will be covered in some depth. Prerequisite: 465. (g) Seminar in parasitology. (h) Seminar on the amphibia. (j) Seminar in developmental biology. Detailed coverage of current topics of interest in developmental biology; the course will emphasize interacting systems in the development of both vertebrates and invertebrates, from the molecular to the tissue levels. Prerequisite: 300, Biology 309, or equivalent. (l) Seminar in aquaculture. (m)

Seminar in fish management. Three meetings per week. Prerequisite: consent of instructor. (z) Seminar in selected topics. Prerequisite: consent of instructor or department.

593-1 to 8 Individual Research. Investigation in zoology other than those for theses. Only three hours may be credited toward a degree. Some costs may be borne by the student.

598-1 to 12 Research Paper. Preparation of research paper for Master of Science degree. Only two hours may count toward the degree. Some cost may be borne by the student. Prerequisite: consent of instructor. Graded *S/U* only.

599-1 to 12 Research and Thesis. Thesis for Master of Arts degree. Only 6 hours may count toward the degree. Some cost may be borne by student. Prerequisite: consent of instructor. Graded *S/U* only.

600-1 to 32 Research and Dissertation. Research and dissertation for Doctor of Philosophy degree. Some cost may be borne by student. Graded *S/U* only. Prerequisite: consent of instructor.

601-1 to 12 per semester Continuing Research. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation or thesis. The student must have completed a minimum of 24 hours of dissertation research, 600, or a minimum of thesis or research hours, usually three to six hours, before being eligible to register for this course. Graded *S/U* or *DEF* only.

Graduate instruction at Southern Illinois University at Carbondale is the responsibility of the graduate faculty. Although the graduate faculty is not organized into departments, its members are normally affiliated with specific disciplines. The faculty listed below are arranged in terms of their departmental affiliations. The college or school in which the department is located is also noted.

Faculty teaching in interdisciplinary programs are listed under the appropriate program and are identified as to the department in which they hold an appointment.

The first of the two dates listed with the name of a faculty member indicates the year in which the highest degree was earned; the second date indicates the year when the person first became a faculty member at Southern Illinois University at Carbondale.

Preceding the graduate faculty is a list of faculty members and students elected to the Graduate Council for the year 1981-1982.

Members of the Graduate Council for 1981-1982

Larry J. Bailey, Professor, Vocational Education Studies

Ronald A. Brandon, Professor, Zoology

Wendy Broadbooks, Student, Guidance and Educational Psychology

David Clarke, Professor, Philosophy

Jacqueline Cuevas, Student, Psychology

David Fauri, Professor, Social and Community Services

John Guyon, (Ex-Officio), Vice President for Academic Affairs and Research

William Hardenbergh, Professor, Political Science

Charles Harpole, Assistant Professor, Cinema and Photography

Irvin G. Hillyer, Professor, Plant and Soil Science

C. B. Hunt, (Ex-Officio), Dean, College of Communications and Fine Arts

John S. Jackson III, (Ex-Officio), Acting Dean, Graduate School

Thomas B. Jefferson, Professor, Thermal and Environmental Engineering

Loren B. Jung, Professor, Higher Education

Beverly Hill Konneker, Assistant Professor, Linguistics

Richard Lanigan, Professor, Speech Communication

Lars Larson, Associate Professor, Administrative Sciences

Terry Mathias, Student, Higher Education

Lawrence Matten, Professor, Botany

Patrick Melia, Student, Higher Education

Cal Meyers, Professor, Chemistry and Biochemistry

Christian Moe, Professor, Theatre

Kenneth Peterson, (Ex-Officio), Dean, Library Affairs

Gordon F. Pitz, Professor, Psychology

Dale Ritzel, Professor, Health Education

Brockman Schumacher, Professor, Rehabilitation Institute

William Simeone, Professor, English

Jack Snowman, Associate Professor, Guidance and Educational Psychology

Albert Somit, (Ex-Officio), President

Susan Tracz, Student, Guidance and Educational Psychology

John E. Utgaard, Professor, Geology

David Werlich, Associate Professor, History

Accountancy

College of Business and Administration

Arlinghaus, Barry P., Assistant Professor, C.P.A., Ph.D., University of Cincinnati, 1979; 1980. Taxation.

Barron, Mary Noel, Associate Professor, *Emerita*, C.P.A., M.B.A., University of Michigan, 1946; 1948. Financial accounting, tax.

Basi, Bartholomew, Professor and *Chairperson*, D.B.A., Indiana University, 1971; 1978. Financial accounting, and taxation of closely-held companies.

Burger, Clifford R., Professor, *Emeritus*, C.P.A., M.S., Indiana State University, 1947; 1958. Auditing, and financial accounting.

Eriksen, Douglas C., Associate Professor, C.P.A., C.M.A., Ph.D., University of Missouri, 1968; 1969. Cost and managerial accounting, accounting systems, and financial accounting.

Masoner, Michael M., Assistant Professor, Ph.D., University of Minnesota, 1975; 1978. Accounting theory, cost accounting.

Rivers, Richard, Associate Professor, D.B.A., Kent State University, 1976; 1978. Quantitative decision models, and information systems.

Swick, Ralph D., Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1954; 1955.

Tucker, Marvin W., Professor, Ph.D., University of Alabama, 1966; 1966. Financial accounting, managerial and cost accounting.

Wright, Roland M., Professor, C.P.A., Ph.D., University of Iowa, 1962; 1966. Financial accounting and accounting theory.

Administrative Sciences

College of Business and Administration

Bateman, David N., Associate Professor, Ph.D., Southern Illinois University, 1970; 1965. Management and communication systems.

Bedwell, R. Ralph, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1969; 1954.

Bussom, Robert S., Associate Professor, Ph.D., Ohio State University, 1973; 1969. Systems management and operations management.

Fohr, John M., Professor, Ed.D., Michigan State University, 1959; 1962. Management and communications.

Jauch, Lawrence, Professor, Ph.D., University of Missouri, 1973; 1976. Business policy and organizational behavior.

Larson, Lars L., Associate Professor, Ph.D., University of Illinois, 1971; 1971. Organizational behavior and business policy.

Martin, Thomas N., Associate Professor, Ph.D., University of Iowa, 1977; 1977. Management theory, organizational behavior, and research methods.

Peters, Lawrence, Associate Professor, Ph.D., Purdue University 1975; 1981. Personnel.

Rehn, Henry J., Professor, *Emeritus*, Ph.D., University of Chicago, 1930; 1945.

Schermerhorn, John R., Associate Professor, Ph.D., Northwestern University, 1974; 1979. Organizational theory and behavior, organizational change, and interorganizational relations.

Scott, John W., Professor, *Emeritus*, Ph.D., University of Chicago, 1930; 1947.

Sekaran, Uma, Associate Professor, Ph.D., U.C.L.A., 1977; 1977. Organization behavior, cross-cultural perspectives in organization behavior, and research methods.

Vicars, William M., Associate Professor and *Acting Chairman*, Ph.D., Southern Illinois University, 1969; 1961. Personnel, management consulting.

White, Gregory P., Assistant Professor, Ph.D., University of Cincinnati, 1976; 1978. Production management and management sciences.

Wilson, Harold K., Assistant Professor, D.B.A., University of Colorado, 1972; 1972. Business policy, management and small business management.

Agribusiness Economics

School of Agriculture

Herr, William McD., Professor and *Chairperson*, Ph.D., Cornell University, 1954; 1957.

Keepper, Wendell E., Professor, *Emeritus*, Ph.D., Cornell University, 1938; 1950.

Solverson, Lyle, Associate Professor, Ph.D., University of Wisconsin, 1967; 1966.

Wills, Walter J., Professor, Ph.D., University of Illinois, 1952; 1956.

Agricultural Education and Mechanization

School of Agriculture

Benton, Ralph A., Professor, *Emeritus*, Ph.D., University of Illinois, 1955; 1956.

Doerr, William A., Assistant Professor, Ph.D., Southern Illinois University, 1973; 1965.

Legacy, James, Associate Professor and *Chairperson*, Ph.D., Cornell University, 1976; 1977.

Paterson, John J., Associate Professor, *Emeritus*, M.S., University of Saskatchewan, 1943; 1957.

Reneau, Fred, Assistant professor, Ph.D., Virginia Tech, 1979; 1979.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967; 1967.

Wolff, Robert L., Associate Professor, Ph.D., Louisiana State University, 1971; 1972.

Wood, Eugene S., Professor, *Emeritus*, Ed.D., University of Missouri, 1958; 1949.

Animal Industries

School of Agriculture

Arthur, Robert, Assistant Professor, Ph.D., University of Missouri, 1970; 1977. Monogastric nutrition, biochemistry.

Goodman, Bill L., Professor, Ph.D., Ohio State University, 1959; 1958. Animal breeding & genetics, poultry production.

Hausler, Carl L., Associate Professor, Ph.D., Purdue University, 1970; 1970. Reproductive physiology.

Hinners, Scott W., Professor, Ph.D., *Emeritus*, University of Illinois, 1958; 1951.

Kammlade, W. G., Jr., Associate Professor, Ph.D., University of Illinois, 1951; 1954. Horse management.

Kroening, Gilbert H., Professor, Ph.D., Cornell University, 1965; 1969. Swine production, monogastric nutrition.

Lee, D. Dixon, Jr., Associate Professor, Ph.D., North Carolina State University, 1970; 1970. Ruminant nutrition, waste management, biochemistry.

Olson, Howard H., Professor, Ph.D., University of Minnesota, 1952; 1954. Reproductive physiology; dairy cattle production; international animal agriculture.

Powell, Stephen E., Assistant Professor, Ph.D., Purdue University, 1978; 1978. Animal and meat science.

Reed, Alex, Professor, *Emeritus*, Ph.D., University of Illinois, 1953; 1946.

Strack, Louis E., Associate Professor, D.V.M., University of Illinois, 1961; 1968. Veterinary medicine.

Woody, Harold Dee, Assistant Professor, Ph.D., Michigan State University, 1978; 1978.

Young, Anthony W., Professor and *Chairperson*, Ph.D., University of Kentucky, 1969; 1980. Ruminant nutrition, forages.

Anthropology

College of Liberal Arts

Bender, M. Lionel, Associate Professor, Ph.D., University of Texas at Austin, 1968; 1971. Linguistic anthropology, Sahelian languages; Ethiopia, Africa.

Braun, David P., Assistant Professor, Ph.D., University of Michigan, 1977; 1977. Archaeology, method and theory, prehistoric cultural ecology quantitative methods, Eastern USA.

Butler, Brian M., Adjunct Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1977. Archaeology, cultural resource management, prehistoric subsistence and settlement systems; Southeastern and Midwestern USA.

Corruccini, Robert S., Assistant Professor, Ph.D., University of California, Berkeley, 1975; 1978. Physical anthropology, paleontology, osteology, multivariate methods, dental anthropology.

Dark, Philip J. C., Professor, *Emeritus*, Ph.D., Yale University, 1954; 1960.

Diener, Paul E., Assistant Professor, Ph.D., Stanford University, 1979; 1979. Socio-cultural anthropology, cultural evolution and ecology, economic anthropology; Latin America.

Euler, Robert, Adjunct Professor, Ph.D., University of New Mexico 1958; 1976. Ar-

chaeology of western North America, ethno-history, paleoclimatology; Morocco.

Gumerman, George J., Professor, Ph.D., University of Arizona, 1969; 1973. Archaeology, archaeological cooperatives, culture change, remote sensing, conservation archaeology; US Southwest and Micronesia.

Handler, Jerome S., Professor, Ph.D., Brandeis University, 1965; 1962. Cultural anthropology, ethnohistory, Afro-American studies, slavery, plantation and peasant communities; Caribbean, Africa.

Kelley, J. Charles, Professor, *Emeritus*, Ph.D., Harvard University, 1948; 1950.

MacLachlan, Bruce B., Associate Professor, Ph.D., University of Chicago, 1962; 1964. Social anthropology, law, social organization, American Indians; North America, USA, Asia.

Maring, Ester G., Assistant Professor, Ph.D., Indiana University, 1969; 1965. Folklore, ethnology, acculturation, comparative religions, customary law and ethics; Southeast Asia, US Southwest.

Maring, Joel M., Associate Professor, Ph.D., Indiana University, 1967; 1963. Linguistics, educational anthropology, ethnomusic; US Southwest, Southeast Asia, New Guinea.

Muller, Jon D., Associate Professor, Ph.D., Harvard University, 1967; 1966. Archaeology, art analysis and culture theory; Eastern USA, Africa.

Powell, Shirley, Assistant Professor, Ph.D., Arizona State University, 1980; 1977. Archaeology, method and theory, cultural resource management, ethno-archaeology, United States-Southwest.

Rands, Robert L., Professor, Ph.D., Columbia University, 1952; 1966. Archaeology, ceramic technology, comparative art; Meso-america.

Riley, Carroll L., Professor and *Chairperson*, Ph.D., University of New Mexico, 1952; 1955. Ethnology, ethnohistory, origins of civilizations; Northern Mexico, US Southwest.

Taylor, Walter W., Professor, *Emeritus*, Ph.D., Harvard University, 1943; 1958.

Art

College of Communications and Fine Arts

Abrahamson, Roy E., Associate Professor, Ed.D., Columbia University, 1965; 1965. Art education.

Addington, Aldon M., Assistant Professor M.F.A., Cranebrook Academy of Art, 1966; 1967. Sculpture.

Bernstein, Lawrence A., Associate Professor, M.F.A., Cranebrook Academy of Art, 1953; 1962. Drawing and painting.

Boysen, Bill H., Associate Professor, M.F.A., University of Wisconsin, 1966; 1966. Ceramics, glassblowing.

Covington, Patricia, Assistant Professor, Ph.D., Southern Illinois University, 1981; 1974. Art history

Deller, Harris, Associate Professor, M.F.A.,

Cranebrook Academy of Art, 1973; 1975. Ceramics.

Fehm, Sherwood A., Jr., Associate Professor, Ph.D., Yale University, 1971; 1977. Late medieval and renaissance art and architecture.

Feldman, Joel B., Assistant Professor, M.F.A., Indiana University, 1967; 1973. Printmaking, lithography.

Fink, Herbert L., Professor, M.F.A., Yale University, 1958; 1961. Drawing and printmaking, etching.

Greenfield, Sylvia R., Assistant Professor, M.F.A., University of Colorado, 1967; 1968. Drawing and painting.

Johnson, Evert A., Lecturer, M.A., University of Iowa, 1954; 1966. Curator of art, University Museum and Art Galleries.

Kington, L. Brent, Professor and *Director*, M.F.A., Cranebrook Academy of Art, 1961; 1961. Metals, blacksmithing.

Lintault, M. Joan, Associate Professor, M.F.A., Southern Illinois University, 1962; 1973. Weaving and quilting.

Littlefield, F. Lee, Assistant Professor, M.A., University of New Mexico, 1968; 1968. Drawing and painting.

Mavigliano, George J., Assistant Professor, M.A., Northern Illinois University, 1967; 1970. American art and architecture.

Mawdsley, Richard W., Associate Professor, M.F.A., University of Kansas, 1969; 1978. Metalsmithing.

Onken, Michael O., Assistant Professor, M.A., Northern Illinois University, 1966; 1968. Drawing and painting.

Paulson, Robert L., Associate Professor, M.F.A., University of Wisconsin, 1967; 1967. Drawing and painting.

Shay, Edward H., Associate Professor, M.F.A., University of Illinois, 1971; 1978. Drawing, painting, and printmaking.

Sullivan, James E., Associate Professor, M.A., University of California at Los Angeles, 1965; 1969. 19th century and modern art and interdisciplinary studies.

Sullivan, Milton F., Professor, M.A., Columbia University, 1951; 1952. Sculpture.

Walsh, Thomas J., Professor, M.F.A., University of Michigan, 1962; 1967. Sculpture and foundry.

Whitlock, John J., Adjunct Associate Professor, Ed.D., Indiana University, 1971; 1978. Museum and art galleries.

Wood, Dan D., Associate Professor, M.A., University of Iowa, 1968; 1968. General studies and drawing.

Youngblood, Michael, Assistant Professor, Ph.D., University of Oregon, 1975; 1979. Art education.

Botany

College of Science

Ashby, William C., Professor, Ph.D., University of Chicago, 1950; 1960. Forest ecology;

physiological ecology; tree growth; strip-mine reclamation.

Bissing, Donald, Assistant Professor, Ph.D., Claremont Graduate School, 1976; 1976. Plant anatomy, ecological anatomy of vascular plants.

Matten, Lawrence C., Professor, Ph.D., Cornell University, 1965; 1965. Paleobotany; plant anatomy; Devonian-Mississippian plants; silicified woods.

Mohlenbrock, Robert H., Professor, Ph.D., Washington University, 1957; 1957. Taxonomy; Illinois flora; leguminosae; endangered species.

Olah, Ladislao V., Professor, *Emeritus*, Ph.D., Stephen Tisza University, Hungary, 1934; 1959.

Pappelis, Aristotel J., Professor, Ph.D., Iowa State University, 1957; 1960. Plant physiology; pathology; quantitative interference microscopy; quantitative cytochemistry and cytofluorescence.

Richardson, John A., Assistant Professor, M.F.A., Ohio University, 1969; 1966. Scientific photography.

Robertson, Philip A., Associate Professor, Ph.D., Colorado State University, 1968; 1970. Plant community ecology.

Schmid, Walter E., Professor, Ph.D., University of Wisconsin, 1961; 1962. Plant physiology; absorption and translocation of micronutrient elements.

Stotler, Barbara C., Associate Professor, Ph.D., University of Cincinnati, 1968; 1970. Developmental morphology; bryology; experimental studies; ultrastructure.

Stotler, Raymond E., Associate Professor, Ph.D., University of Cincinnati, 1968; 1969. Bryology; biosystematics; regional flora; community structure.

Sundberg, Walter J., Associate Professor, Ph.D., University of California, 1971; 1972. Mycology, cytology, ultrastructure of fungi.

Tindall, Donald R., Professor and *Chairperson*, Ph.D., University of Louisville, 1966; 1966. Phycology; algal development under natural conditions; ecology of aquatic vascular plants; toxic algae.

Ugent, Donald, Associate Professor, Ph.D., University of Wisconsin, 1966; 1968. Taxonomy; biosystematic studies on Solanum sect. tuberarium; phytogeographical studies of Illinois.

Verduin, Jacob, Professor, Ph.D., Iowa State University, 1947; 1964. Aquatic ecology; daily energy budgets in aquatic communities.

Voigt, John W., Professor, Ph.D., University of Nebraska, 1950; 1950. Ecology; grasslands.

Welch, Walter B., Professor, *Emeritus*, Ph.D., University of Chicago, 1937; 1939.

Yopp, John H., Professor, Ph.D., University of Louisville, 1969; 1970. Plant physiology; developmental plant physiology; environmental regulation of metabolic pathways.

Center for the Study of Crime, Delinquency, and Corrections

College of Human Resources

Anderson, Dennis, Assistant Professor, Ed.D., University of Nebraska, 1970; 1970. Educational psychology.

Coughlin, Joseph S., Professor and *Director*, M.S.W., University of Wisconsin, 1954; 1973. Criminal and juvenile justice management/correctional casework.

Dreher, Robert H., Associate Professor, J.D., University of Illinois, 1940; 1967.

Georges-Abeyie, Daniel, Associate Professor, Ph.D., Syracuse University, 1974; 1980. Urban social geography.

Johnson, Elmer H., Professor, Ph.D., University of Wisconsin, 1950; 1966. Sociology, criminology.

Lorinskas, Robert, Associate Professor, Ph.D., University of Georgia, 1973; 1980. Political science.

Matthews, Charles V., Associate Professor, M.A., University of Kansas City, 1951; 1962. Guidance and counseling, psychology, higher education.

Riedel, Marc P., Associate Professor, Ph.D., University of Pennsylvania, 1972; 1978. Sociology.

Timm, Howard W., Assistant Professor, Ph.D., Michigan State University, 1979; 1980. Forensic hypnosis research; security.

Wilson, Nanci K., Assistant Professor, Ph.D., University of Tennessee, 1972; 1972. Sociology.

Chemistry and Biochemistry

College of Science

Arnold, Richard T., Professor, Ph.D., University of Illinois, 1937; 1969.

Bemiller, James N., Professor, Ph.D., Purdue University, 1959; 1961.

Beyler, Roger E., Professor, Ph.D., University of Illinois, 1949; 1959.

Bolen D. Wayne, Associate Professor, Ph.D., Florida State University, 1969; 1971.

Brown, George E., Professor, *Emeritus*, Ph.D., Iowa State University, 1941; 1962.

Caskey, Albert L., Associate Professor, Ph.D., Iowa State University, 1961; 1964.

Cox, James A., Professor, Ph.D., University of Illinois, 1967; 1969.

Dunaway, George, Associate Professor, Ph.D., University of Oklahoma, 1970; 1975.

Emptage, Michael R., Assistant Professor, Ph.D., Harvard University, 1965; 1968.

Guyon, John C., Professor, Ph.D., Purdue University, 1961; 1974.

Hadler, Herbert I., Professor, Ph.D., University of Wisconsin, 1952; 1966.

Hadley, Elbert H., Professor, Ph.D., Duke University, 1940; 1947.

Hall, J. Herbert, Professor, Ph.D., University of Michigan, 1959; 1962.

Hargrave, Paul A., Associate Professor, Ph.D., University of Minnesota, 1970; 1973.

Hinckley, Conrad C., Professor, Ph.D., University of Texas, 1964; 1966.

Koster, David F., Professor, Ph.D., Texas A & M University, 1965; 1967.

Meyers, Cal Y., Professor, Ph.D., University of Illinois, 1951; 1964.

Neckers, J. W., Professor, *Emeritus*, Ph.D., University of Illinois, 1927; 1927.

Phillips, John B., Assistant Professor, Ph.D., University of Arizona, 1977; 1977.

Scheiner, Steve, Assistant Professor, Ph.D., Harvard University, 1976; 1978.

Schmit, Joseph G., Assistant Professor, Ph.D., Purdue University, 1971; 1976.

Schmulbach, C. David, Professor and *Chairperson*, Ph.D., University of Illinois, 1958; 1965.

Slocum, Donald W., Professor, Ph.D., New York University, 1963; 1965.

Smith, Gerard V., Professor, Ph.D., University of Arkansas, 1959; 1966.

Sung, Michael T., Professor, Ph.D., University of Wisconsin, 1968; 1971.

Trimble, Russell F., Professor, Ph.D., Massachusetts Institute of Technology, 1951; 1954.

Tyrrell, James, Professor, Ph.D., University of Glasgow, 1963; 1967.

Van Lente, Kenneth A., Professor, *Emeritus*, Ph.D., University of Michigan, 1931; 1931.

Wotiz, John H., Professor, Ph.D., Ohio State University, 1948; 1967.

Cinema and Photography

College of Communications and Fine Arts

Blumenberg, Richard M., Professor, Ph.D., Ohio University, 1969; 1970. Film theory and history.

Cocking, Loren D., Assistant Professor, M.A., Ohio State University, 1969; 1976. Film production.

Covell, Michael D., Assistant Professor, M.F.A., Ohio University, 1975; 1975. Film production.

Gilmore, David A., Associate Professor, M.F.A., Ohio University, 1969; 1969. Fine arts photography.

Harpole, Charles H., Assistant Professor, Ph.D., New York University, 1976; 1977. Film theory and history.

Horrell, C. William, Professor, Ed.D., Indiana University, 1955; 1949. Professional photography.

Kolb, Gary P., Assistant Professor, M.F.A., Ohio University, 1977. Professional photography.

Lyons, Timothy J., Professor and *Chairperson*, Ph.D., University of Iowa, 1972; 1980. Film historiography.

Mercer, John, Professor, Ph.D., University of Nebraska, 1952; 1958. Film history.

Paine, Frank, Associate Professor, B.S.,

Iowa State University, 1950; 1960. Film production.

Paul, Kathryn, Assistant Professor, M.F.A., Arizona State University, 1973. Fine arts photography.

Powell, W. Duane, Assistant Professor, M.F.A., University of Illinois, 1977; 1978.

Swedlund, Charles A., Professor, M.S., Illinois Institute of Technology, 1961; 1971. Fine arts photography.

Communication Disorders and Sciences

College of Communications and Fine Arts

Anderson, John O., Professor, Ph.D., Ohio State University, 1950; 1950. Articulation, cerebral palsy, cleft palate, geriatrics.

Blache, Stephen E., Associate Professor, Ph.D., Ohio University, 1970/1971. Phonology, distinctive feature theory, experimental phonetics, research design.

Brackett, Isaac P., Professor and *Chairperson*, Ph.D., Northwestern University, 1947; 1951. Voice problems, phonetics, dynamics of speech, cleft palate.

Brutten, Gene J., Professor, Ph.D., University of Illinois, 1957; 1957. Stuttering, research design, behavior therapy, aural rehabilitation.

Crary, Michael A., Assistant Professor, Ph.D., Ohio University, 1978; 1980. Organics, aphasia, anatomy and physiology, apraxia.

Garbutt, Cameron W., Associate Professor, *Emeritus*, Ph.D., Louisiana State University, 1951; 1947.

Hoshiko, Michael S., Professor, Ph.D., Purdue University, 1957; 1957. Biofeedback, instrumentation, speech science, neuropsychology of speech.

Koepp-Baker, Herbert, Professor, *Emeritus*, Ph.D., University of Iowa, 1938; 1961.

Lehr, Robert P. Jr., Associate Professor, Ph.D., Baylor University, 1971; 1973. Neuroanatomy, medical problems of speech.

Moncur, John P., Professor, *Emeritus*, Ph.D., Stanford University, 1950; 1972. Training the speaking voice, audiology, aural rehabilitation, administration.

Prizant, Barry M., Assistant Professor, Ph.D., State University of New York at Buffalo, 1978; 1979. Autism, language development and disorders, cognitive development.

Smoldino, Joseph J., Associate Professor, Ph.D., University of Florida, 1974; 1980. Audiology, computer applications speech science, sign language.

Comprehensive Planning and Design

College of Human Resources

Archer, Richard, Assistant Professor, M.S., Governor's State University, 1979; 1968. Low-cost solar energy, bio-mass conversion, alcohol fuels.

Berry, Thelma Huff, Professor, *Emerita*, Ed.D., Columbia University, 1963; 1966.

Busch, Larry, Assistant Professor, M.S., Southern Illinois University, 1970; 1970. Energy conservation, low cost solar design, appropriate technology.

Clarke, David S.C., Associate Professor and *Director*, M.S., Catholic University 1980; 1981. Architecture, urban design, business and economics.

Ellner, Jack R., Professor, Ph.D., New York University, 1969; 1971. Systems theory and philosophy, human engineering, philosophy and ethics of technology, design of special environments for the handicapped.

Kula, Elsa, Lecturer, *Emerita*, B.F.A., Pratt Institute, Brooklyn, New York ITT, Institute of Design, Chicago, 1942; 1957.

Lougeay, Paul J., Associate Professor, Registered Architect, M.S., Southern Illinois University, 1973; 1952. Architectural design and planning, structural design, architectural detailing, architectural delineation.

Padgett, Rose, Professor, *Emerita*, Ph.D., Purdue University, 1955; 1962.

Perk, Harry F. W., Lecturer, A.B., University of California at Los Angeles, 1951; 1964. Alternative future, design science, general systems research and methodology.

Pratt, Davis J., Lecturer, Certificate, University of Chicago and ITT, Institute of Design, Chicago, 1939; 1957. Product design, design for third world countries and intercultural relationships.

Roan, Herbert, Lecturer and Instructor, Certificate, Cooper Union, 1938; 1957. Graphic design and visual communications.

Schoen, Alan Hugh, Professor, Ph.D., University of Illinois, 1958; 1973. Computer-aided design, computer graphics, polyhedral geometry, solid-state physics.

St. John, Wayne L., Associate Professor, Ph.D., University of Oregon, 1954; 1975. Socio-psycho-economic aspects of textile products, performance of textile products (especially comforts), self-paced motivated textile instruction.

Whitesel, Ritta, Associate Professor, *Emerita*, M.A., Columbia University, 1941; 1955.

Computer Science

College of Liberal Arts

Danhof, Kenneth J., Associate Professor and *Chairperson*, Ph.D., Purdue University, 1969; 1969.

Mark, Abraham M., Professor, Ph.D., Cornell University, 1947; 1950.

Pagan, Frank, Associate Professor, Ph.D., University of Toronto, 1972; 1978.

Varol, Yaakov, Associate Professor, Ph.D., University of Wyoming, 1971; 1978.

Wright, William E., Associate Professor, D.Sc., Washington University, 1972; 1970.

Curriculum, Instruction, and Media

College of Education

Aikman, Arthur L., Professor, Ph.D., Southern Illinois University, 1965; 1964.
Alston, Melvin O., Professor, *Emeritus*, Ed.D., Columbia University, 1945; 1970.
Barrette, Pierre P., Assistant Professor, Ed.D., University of Massachusetts, 1971; 1978.
Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University, 1978; 1956.
Becker, Jerry P., Associate Professor, Ph.D., Stanford University, 1979; 1967.
Bedient, Douglas, Assistant Professor, Ph.D., Southern Illinois University, 1971; 1969.
Boykin, Arsene O., Associate Professor, Ed.D., University of Illinois, 1964; 1972.
Bradfield, Luther E., Professor, *Emeritus*, Ed.D., Indiana University, 1953; 1955.
Brod, Ernest E., Professor, *Emeritus*, Ed.D., University of Northern Colorado, 1953; 1951.
Butts, Gordon K., Professor, Ed.D., Indiana University, 1956; 1950.
Casey, John P., Professor, Ed.D., Indiana University, 1963; 1964.
Cox, Dorothy, Assistant Professor, Ph.D., Southern Illinois University, 1976; 1965.
Dale, Doris C., Professor, D.L.S., Columbia University, 1968; 1969.
DeFord, Diane E., Assistant Professor, Ed.D., Indiana University, 1978; 1978.
Dixon, Billy G., Associate Professor and *Chairperson*, Ph.D., Southern Illinois University, 1967; 1961.
Fletcher, Kathleen G., Associate Professor, *Emerita*, M.S., University of Illinois, 1947; 1955.
Fligor, Ross J., Professor, *Emeritus*, Ph.D., Michigan State University, 1953; 1940.
Hill, Margaret K., Professor, Ed.D., Boston University, 1948; 1965.
Hungerford, Harold R., Professor, Ph.D., Southern Illinois University, 1970; 1965.
Jacko, Carol, Associate Professor, Ph.D., University of Pittsburgh, 1974; 1975.
Jackson, Michael, Associate Professor, Ed.D., University of Florida, 1971; 1971.
Karmos, Ann, Associate Professor, Ph.D., Southern Illinois University, 1975; 1975.
Klasek, Charles B., Professor, Ph.D., University of Nebraska, 1971; 1971.
Lamb, Morris L., Associate Professor, Ed.D., University of Oklahoma, 1970; 1970.
Lee, J. Murray, Professor, *Emeritus*, Ph.D., Columbia University, 1934; 1958.
Leming, James, Assistant Professor, Ph.D., University of Wisconsin, 1973; 1977.
Lindberg, Dormalee H., Associate Professor, Ed.D., University of Missouri, Columbia, 1969; 1969.
Malone, Willis E., Professor, *Emeritus*, Ph.D., Ohio State University, 1950; 1939.
Matthias, Margaret, Associate Professor, Ph.D., Southern Illinois University, 1972; 1969.

McIntyre, John D., Assistant Professor, E.D., Syracuse University, 1977; 1977.
Mees, John D., Professor, *Emeritus*, Ed.D., Indiana University, 1950; 1946.
Norris, William, Assistant Professor, Ed.D., Indiana University, 1973; 1977.
Paige, Donald D., Professor, Ed.D., Indiana University, 1966; 1966.
Quisenberry, James D., Assistant Professor, Ph.D., Indiana University, 1972; 1971.
Quisenberry, Nancy L., Professor, Ed.D., Indiana University, 1971; 1971.
Randolph, Victor, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1942; 1933.
Rigg, Pat, Associate Professor, Ph.D., Wayne State University, 1979; 1974.
Rubba, Peter A., Assistant Professor, Ed.D., Indiana University, 1977; 1976.
Samford, Clarence, Professor, *Emeritus*, Ph.D., New York University, 1940; 1951.
Scheer, Janet K., Assistant Professor, Ph.D., Arizona State University, 1977; 1977.
Seiferth, Berniece B., Professor, Ed.D., University of Missouri, 1955; 1955.
Shepherd, Terry R., Associate Professor, Ph.D., University of Illinois, 1971; 1971.
Sloan, Fred A., Professor, Ed.D., George Peabody College for Teachers, 1959; 1968.
Spigle, Irving S., Associate Professor, *Emeritus*, Ed.D., Indiana University, 1955; 1970.
Stephens, Clarence, Professor, *Emeritus*, Ed.D., Indiana University, 1955; 1952.
Tomera, Audrey, Associate Professor, Ph.D., Southern Illinois University, 1973; 1969.
Wendt, Paul R., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948; 1955.
Winsor, Donald, Associate Professor, Ed.D., University of Florida, 1961; 1965.

Economics

College of Liberal Arts

Bhandari, Jagdeep, Assistant Professor, Ph.D., University of Delhi, 1973; 1979. International finance, monetary economics.
Ellis, Robert J., Jr., Associate Professor and *Acting Chairperson*, Ph.D., University of Virginia, 1966; 1962. Labor economics.
Fare, Rolf, Associate Professor, Docent, University of Lund, Sweden, 1976; 1978. Microeconomic theory, mathematical economics.
Foran, Terry G., Associate Professor, Ph.D., Pennsylvania State University, 1970; 1969. Labor economics, monetary theory.
Fryman, Richard F., Associate Professor, Ph.D., University of Illinois, 1967; 1966. Public finance.
Gellerson, Mark W., Assistant Professor, Ph.D., Syracuse University, 1978; 1978. Energy and regulation, human resources and health, development.
Grabowski, Richard, Assistant Professor, Ph.D., University of Utah, 1977; 1979. Economic development, international economics.

Grosskopf, Shawna, Assistant Professor, Ph.D., Syracuse University, 1977; 1977. Public finance, labor economics.

Hickman, C. Addison, Professor, *Emeritus*, Vandever Chair of Economics, Ph.D., University of Iowa, 1942; 1960. Political economy, methodology and history of thought.

Layer, Robert G., Professor, Ph.D., Harvard University, 1952; 1955. Economic history, comparative systems.

Myers, John G., Professor, Ph.D., Columbia University, 1961; 1977. Energy and environmental economics, macroeconomics, econometrics.

Primont, Daniel, Associate Professor, Ph.D., University of California, Santa Barbara, 1970; 1978. Microeconomic theory, mathematical economics, econometrics.

Shields, Michael P., Assistant Professor, Ph.D., University of Utah, 1975; 1975. Macroeconomics.

Tracy, Ronald, Assistant Professor, Ph.D., Michigan State University, 1975; 1974. Econometrics.

Trescott, Paul B., Professor, Ph.D., Princeton University, 1954; 1976. Monetary theory, economic development.

Yoon, Bong, Assistant Professor, Ph.D., University of Illinois, 1978; 1979. Econometrics, microeconomics, labor economics.

Educational Leadership

College of Education

Armistead, Fred, J., Professor, *Emeritus*, Ph.D., University of California, 1960; 1961.

Bach, Jacob O., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1951; 1951.

Bracewell, George, Professor, *Emeritus*, Ed.D., Washington University, 1952; 1931.

Brammell, Paris R., Professor, *Emeritus*, Ph.D., University of Washington, 1930; 1960.

Bryant, Royce R., Professor, *Emeritus*, Ed.D., Washington University, 1952; 1948.

Buser, Robert L., Professor, Ed.D., Indiana University, 1966; 1967.

Childs, John L., Professor, *Emeritus*, Ph.D., Teachers College, Columbia University, 1931; 1961.

Clark, Elmer J., Professor, Ph.D., University of Michigan, 1949; 1964.

Dennis, Lawrence J., Professor, Ph.D., Southern Illinois University, 1968; 1968.

Duff, Grace, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1970; 1973.

Eaton, William E., Professor, Ph.D., Washington University, 1971; 1971.

Evans, John, Associate Professor, Ph.D., Southern Illinois University, 1968; 1970.

Ewing, Parmer L., Professor, *Emeritus*, Ed.D., New York University, 1950; 1965.

Fishback, Woodson W., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1947; 1948.

Hall, James H., Associate Professor, *Emeritus*, Ed.D., George Washington University, 1950; 1952.

Jacobs, Robert, Professor, *Emeritus*, Ed.D., Wayne State University, 1949; 1962.

Kaiser, Dale E., Professor, Ph.D., University of Illinois, 1963; 1966.

Lawler, Eugene S., Professor, *Emeritus*, Ph.D., Columbia University, 1932; 1961.

Lean, Arthur E., Professor, *Emeritus*, Ph.D., University of Michigan, 1948; 1957.

Matthias, William, Associate Professor, Ed.D., University of Illinois, 1964; 1971.

McKenzie, William R., Professor, *Emeritus*, Ed.D., University of Denver, 1952; 1964.

Merwin, Bruce W., Professor, *Emeritus*, Ph.D., University of Kansas, 1929; 1927.

Miller, Harry G., Professor, Ed.D., University of Nebraska, 1970; 1970.

Moore, Malvin E., Professor, Ed.D., George Peabody College for Teachers, 1959; 1968.

Neal, Charles D., Professor, *Emeritus*, Ed.D., Indiana University, 1948; 1948.

Parker, James C., Professor, and *Chairman*, Ed.D., University of Tennessee, 1971; 1971.

Sasse, Edward B., Professor, Ph.D., University of Wisconsin, 1966; 1966.

Shelton, William E., Associate Professor, Ph.D., University of Chicago, 1950; 1951.

Stuck, Dean, Professor, Ph.D., Iowa State University, 1968; 1968.

Verduin, John R., Jr., Professor, Ph.D., Michigan State University, 1962; 1967.

Warren, F. G., Professor, *Emeritus*, A.M., University of Chicago, 1928; 1913.

Wohlwend, Herbert W., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1964; 1958.

Electrical Sciences and Systems Engineering

College of Engineering and Technology

Begley, David L., Assistant Professor, Ph.D., University of Missouri at Rolla, 1978; 1979. Solid state electronics and materials.

Dodd, Curtis W., Associate Professor, Ph.D., Arizona State University, 1967; 1967. Control theory, design.

Fieste, Vernold, K., Associate Professor and *Acting Chairman*, Ph.D., University of Missouri at Columbia, 1966; 1966. Power systems analysis, electrical energy sources, energy conversion.

Goben, Charles A., Professor, Ph.D., Iowa State University, 1965; 1980. Solid state electronics and materials, surface electromagnetic waves.

Lit, Alfred, Professor, Ph.D., Columbia University, 1948; 1961. Man-machine interaction.

McCalla, Thomas, Jr., Associate Professor, Ph.D., Case Western Reserve University, 1969; 1969. Analysis and design of complex systems.

Rawlings, Charles A., Associate Professor, Ph.D., Southern Illinois University, 1974; 1964. Biomedical engineering, instrumentation.

Smith, James G., Professor, Ph.D., University of Missouri at Rolla, 1967; 1966. Electromagnetics, microwaves.

Engineering Biophysics

Departmental Affiliation of Interdisciplinary Program Faculty

Banerjee, Chandra M., Professor, M.D., (School of Medicine). Respiratory physiology.

Caspary, Donald M., Associate Professor, Ph.D., (School of Medicine). Neurophysiology.

Davis, Philip K., Professor, Ph.D., (Engineering Mechanics and Materials). Fluid mechanics.

Faingold, Carl L., Associate Professor, Ph.D., (School of Medicine). Pharmacology.

Goben, Charles A., Professor, Ph.D., (Electrical Sciences and Systems Engineering). Semi-conductor materials, devices.

Hoshiko, Michael S., Professor, Ph.D., (Communication Disorders and Sciences). Biofeedback.

Kaplan, Harold M., Professor, *Emeritus*, Ph.D., (Physiology).

Lit, Alfred, Professor, Ph.D., (Psychology). Human factors, optics.

Meltzer, Donald, Professor, Ph.D., (Psychology). Operant conditioning, psychopharmacology.

Sollberger, Arne R., Professor, M.D., (School of Medicine). Biorhythms.

Watson, Richard E., Professor, *Emeritus*, Ph.D., (Physics and Astronomy). Nuclear magnetism, applied mathematics.

Yau, William M., Associate Professor, Ph.D., (School of Medicine). Digestive physiology.

Engineering Mechanics and Materials

College of Engineering and Technology

Brower, William E., Jr., Associate Professor, Ph.D., Massachusetts Institute of Technology, 1969; 1976. Material science, solidification.

Davis, Philip, Professor and *Chairperson*, Ph.D., University of Michigan, 1963; 1964. Fluid mechanics, vibrations and similitude.

Eddingfield, David, Associate Professor, Ph.D., University of New Mexico, 1975; 1971. Numerical mechanics and experimental fluid mechanics.

Evers, James, Associate Professor, Ph.D., University of Alabama, 1969; 1969. Compressible fluid flows, dynamics, laser velocimetry, supersonics.

Hall, Monte R., Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1974; 1977. Micro-chemistry and micro-structure of materials, glass structure and properties, powder metallurgy and sintered materials, and luminescent solids.

Nowacki, C. Raymond, Associate Professor, Ph.D., University of Illinois, 1965; 1963. Strength of materials, structural analysis and structural design.

Orthwein, William, Professor, Ph.D., University of Michigan, 1959; 1965. Machine

design, vibrations, theoretical and experimental stress analysis.

Rubayi, Najim, Professor, Ph.D., University of Wisconsin, 1966; 1966. Dynamics, strength of materials, experimental stress analysis and photoelasticity.

Sami, Sedat, Professor, Ph.D., University of Iowa, 1966; 1966. Fluid mechanics, hydraulics and hydrology.

English

College of Liberal Arts

Appleby, Bruce C., Associate Professor, Ph.D., University of Iowa, 1967; 1967.

Benziger, James G. Professor, Ph.D., Princeton University, 1941; 1950.

Boyle, Ted Eugene, Professor, Ph.D., University of Nebraska, 1962; 1963.

Brown, William J., Associate Professor, Ph.D., Duke University, 1966; 1966.

Cohn, Alan Martin, Professor, M.S., University of Illinois, 1955; 1955.

Coleman, E. C., Professor, *Emeritus*, Ph.D., University of Illinois 1936; 1946.

Donow, Herbert, Associate Professor, Ph.D., University of Iowa, 1966; 1966.

Friend, Jewell, Associate Professor, Ph.D., Southern Illinois University, 1970; 1967.

Goodin, George, Associate Professor, Ph.D., University of Illinois, 1962, 1966.

Griffin, Robert P., Associate Professor, Ph.D., University of Connecticut, 1965; 1965.

Hatton, Thomas J., Associate Professor, Ph.D., University of Nebraska, 1966; 1965.

Hillegas, Mark, Professor, Ph.D., Columbia University, 1957; 1965.

Howell, John M., Associate Professor, Ph.D., Tulane University, 1963; 1963.

Hurley, Paul, Professor, Ph.D., Duke University, 1962; 1965.

Krappe, Edith, Associate Professor, *Emerita*, Ph.D., University of Pennsylvania, 1953; 1929.

Lawson, Richard A., Associate Professor, Ph.D., Tulane University, 1966; 1963.

Light, James F., Professor, Ph.D., Syracuse University, 1953; 1979.

Little, Judy Ruth, Associate Professor, Ph.D., University of Nebraska, 1969; 1969.

Moore, Harry T., Professor and Research Professor, *Emeritus*, Ph.D., Boston University, 1951; 1963.

Moss, Sidney P., Professor, Ph.D., University of Illinois, 1954; 1964.

Partlow, Robert B., Jr., Professor, *Emeritus*, Ph.D., Harvard University, 1955; 1957.

Peterson, Richard F., Professor, Ph.D., Kent State University, 1969; 1969.

Piper, Henry Dan, Professor, Ph.D., University of Pennsylvania, 1950; 1962.

Rainbow, Raymond, Associate Professor, Ph.D., University of Chicago, 1959; 1949.

Raizis, M. Byron, Professor, Ph.D., New York University, 1966; 1966.

Rudnick, Hans, Associate Professor, Ph.D.,

University of Freiburg, Germany, 1966; 1966.
Schonhorn, Manuel, Professor, Ph.D., University of Pennsylvania, 1963; 1968.
Simeone, William E., Professor and *Chairperson*, Ph.D., University of Pennsylvania, 1950; 1950.
Stibitz, E. Earle, Professor, *Emeritus*, Ph.D., University of Michigan, 1951; 1952.
Taylor, Larry E., Associate Professor, Ph.D., University of Oklahoma, 1969; 1968.
Tenney, Charles D., University Professor, *Emeritus*, Ph.D., University of Oregon, 1931; 1931.
Vieth, David Muench, Professor, Ph.D., Yale University, 1953; 1965.
Webb, Howard W., Jr., Professor, Ph.D., University of Iowa, 1953; 1956.

Finance

College of Business and Administration

Davids, Lewis E., Professor, Ph.D., New York University, 1949; 1978. Financial institutions and banking.
Elsaid, Hussein H., Professor, Ph.D., University of Illinois, 1968; 1967. International finance and financial management.
Loy, L. David, Assistant Professor, Ph.D., University of Iowa, 1978; 1979. Financial management.
Mathur, Iqbal, Professor and *Chairperson*, Ph.D., University of Cincinnati, 1974; 1977. Financial management and investments.
Pertl, Mars A., Associate Professor, Ph.D., University of Iowa, 1974; 1977.
Tyler, R. Stanley, Associate Professor, J.D., University of Illinois, 1952; 1970. Business law, legal environment of business and real estate.
Vaughn, Donald E., Professor, Ph.D., University of Texas, 1961; 1970. Budgeting and investments.
Waters, Gola E., Professor, J.D., University of Iowa, 1957; Ph.D., Southern Illinois University, 1970; 1965. Business law and labor law.

Foreign Languages and Literature

College of Liberal Arts

Betz, Frederick, Associate Professor, Ph.D., Indiana University, 1973; 1978.
Bork, Albert W., Professor, *Emeritus*, Doctor en Letras, National University of Mexico, 1944; 1958.
Canfield, D. Lincoln, Visiting Professor, *Emeritus*, Ph.D., Columbia University, 1934; 1970.
Davis, J. Cary, Professor, *Emeritus*, Ph.D., University of Chicago, 1936; 1930.
Epro, Margaret, Assistant Professor, Ph.D., University of Pennsylvania, 1975; 1977.
French, Howard, Associate Professor, *Emeritus*, Ph.D., Indiana University, 1952; 1962.
Gobert, David L., Professor, Ph.D., University of Iowa, 1960; 1965.

Hartman, Steven Lee, Assistant Professor, Ph.D., University of Wisconsin, 1971; 1971.
Hartwig, Hellmut A., Professor, *Emeritus*, Ph.D., University of Illinois, 1943; 1948.
Keller, Thomas, Associate Professor, Ph.D., University of Colorado, 1975; 1975.
Kilker, James, Professor, Ph.D., University of Missouri at Columbia, 1961; 1967.
Kupcek, Joseph, Professor, Ph.D., Comenius University, Bratislava, Czechoslovakia, 1943; 1962.
Liedloff, Helmut, Professor and *Chairperson*, Ph.D., Phillips University, Germany, 1956; 1959.
McBride, Charles, Associate Professor, Ph.D., University of Texas, 1968; 1972.
Meinhardt, Warren, Associate Professor, Ph.D., University of California at Berkeley, 1965; 1969.
O'Brien, Joan, Associate Professor, Ph.D., Fordham University, 1961; 1969.
O'Meara, Maurice, Associate Professor, Ph.D., University of Iowa, 1967; 1969.
Orechwa, Olga, Associate Professor, Ph.D., Ukrainian Free University, Germany, 1970; 1967.
Peacock, Vera L., Professor, *Emerita*, Ph.D., Cornell University, 1930; 1930.
Speck, Charles, Assistant Professor, Laurea in Diritto Canonico, Pontifical Lateran University, Italy, 1963; 1970.
Tai, James, Associate Professor, Ph.D., Indiana University, 1970; 1970.
Timpe, Eugene F., Professor, Ph.D., University of Southern California, 1960; 1972.
Woodbridge, Hensley, Professor, Ph.D., University of Illinois, 1950; 1965.

Forestry

School of Agriculture

Aubertin, Gerald M., Associate Professor, Ph.D., Pennsylvania State University, 1964; 1976.
Budelsky, Carl A., Assistant Professor, Ph.D., University of Arizona 1969; 1967.
Burde, John H. II, Assistant Professor, Ph.D., University of Arizona, 1974; 1974.
Chilman, Kenneth C., Associate Professor, Ph.D., University of Michigan, 1972; 1973.
Chong, She-Kong, Assistant Professor, Ph.D., University of Hawaii, 1979; 1979.
Fralish, James S., Associate Professor, Ph.D., University of Wisconsin, 1970; 1969.
Gaffney, Gerald R., Assistant Professor, Ph.D., Southern Illinois University, 1970; 1969.
Kung, Fan H., Associate Professor, Ph.D., Michigan State University, 1968; 1970.
McCurdy, Dwight R., Professor, Ph.D., Ohio State University, 1964; 1965.
Myers, Charles C., Associate Professor, Ph.D., Purdue University, 1966; 1973.
Roth, Paul L., Professor, Ph.D., Kansas State University, 1968; 1967.
Weaver, George T., Associate Professor and

Chairperson, Ph.D., University of Tennessee, 1972; 1970.

Yambert, Paul A., Professor, Ph.D., University of Michigan, 1961; 1969.

Geography

College of Liberal Arts

Afey, David G., Associate Professor, Ph.D., Clark University, 1969; 1971.

Baumann, Duane D., Professor, Ph.D., Clark University, 1968; 1967.

Beazley, Ronald I., Professor, Ph.D., Purdue University, 1954; 1959.

Christensen, David E., Professor, Ph.D., University of Chicago, 1956; 1961.

Cunningham, Floyd, Professor, *Emeritus*, Ph.D., Clark University, 1930; 1947.

Horsley, A. Doyme, Assistant Professor, Ph.D., Southern Illinois University, 1974; 1968.

Irwin, Daniel R., Associate Professor, Ph.D., Syracuse University, 1972; 1959.

Jones, David L., Professor, Ph.D., Pennsylvania State University, 1960; 1965.

Krause, Annemarie, Associate Professor, *Emerita*, Ph.D., University of Chicago, 1952; 1930.

Lieber, Stanley R., Associate Professor, Ph.D., University of Iowa, 1974; 1975.

Sharpe, David M., Associate Professor and *Chairperson*, Ph.D., Southern Illinois University, 1968; 1966.

Geology

College of Science

Crelling, John C., Associate Professor, Ph.D., The Pennsylvania State University, 1973; 1977. Coal petrology, coal geology, remote sensing.

Dutcher, Russell R., Professor and *Chairperson*, Ph.D., The Pennsylvania State University, 1960; 1970. Coal geology, field geology, coal petrography.

Fang, Jen-Ho, Professor, Ph.D., The Pennsylvania State University, 1961; 1964. X-ray crystallography, mineralogy.

Frank, Charles, O., Assistant Professor, Ph.D., Syracuse University, 1973; 1970. Geochemistry; igneous and metamorphic petrology.

Fraunfelter, George H., Professor, Ph.D., University of Missouri, Columbia, 1964; 1965. Earth science, invertebrate paleontology, micropaleontology, stratigraphy.

Harris, Stanley, E., Jr., Professor, Ph.D., University of Iowa, 1947; 1949. Environmental geology, stratigraphy, pleistocene geology.

Ritter, Dale F., Professor, Ph.D., Princeton University, 1964; 1972. Geomorphology, hydrogeology.

Robinson, Paul D., Assistant Professor, M.S., Southern Illinois University, 1963; 1967. X-ray crystallography, mineralogy, electron optics.

Sendlein, Lyle V.A., Professor, Ph.D., Iowa

State University, 1964; 1977. Geological engineering, hydrogeology, geophysics.

Sverdrup, Keith, Assistant Professor, Ph.D., Scripps Institution of Oceanography, 1980; 1981. Geophysics.

Utgaard, John E., Professor, Ph.D., Indiana University, 1963; 1965. Micropaleontology, invertebrate paleontology, paleoecology.

Yazicigil, Hasan, Assistant Professor, Ph.D., Purdue University, 1980; 1980. Hydrogeology, engineering geology.

Zimmerman, Jay, Jr., Associate Professor, Ph.D., Princeton University, 1968; 1973. Structure, rock deformation, global tectonics, alpine-ultramafics.

Guidance and Educational Psychology

College of Education

Altekruse, Michael K., Professor, Ed.D., Indiana University, 1967; 1967.

Bardo, Harold R., Associate Professor, Ph.D., Southern Illinois University, 1972; 1968.

Beggs, Donald L., Professor, Ph.D., University of Iowa, 1966; 1966.

Bradley, Richard W., Professor, Ph.D., University of Wisconsin, 1968; 1968.

Brown, Beverly, Assistant Professor, Ph.D., University of Iowa, 1974; 1974.

Cody, John J., Professor, Ph.D., University of Wisconsin, 1961; 1965.

Daniels, M. Harry, Assistant Professor, Ph.D., University of Iowa, 1978; 1978.

Deichmann, John W., Associate Professor, Ph.D., St. Louis University, 1969; 1969.

DeWeese, Harold L., Professor, *Emeritus*, Ed.D., University of Illinois, 1959; 1959.

Dillon, Ronna, Associate Professor, Ph.D., University of California, Riverside, 1978; 1978.

Elmore, Patricia B., Professor, Ph.D., Southern Illinois University, 1970; 1967.

Goh, David S., Associate Professor, Ph.D., University of Wisconsin-Madison, 1973.

Grenfell, John E., Professor, Ed.D., Oregon State University, 1966; 1966.

Ideus, Harvey S., Associate Professor, Ed.D., University of Wyoming, 1965; 1973.

Kelly, Francis J., Professor, Ph.D., University of Texas, 1963; 1965.

Leitner, Dennis W., Associate Professor, Ph.D., University of Maryland, 1975; 1974.

Lewis, Ernest, Professor and *Chairperson*, Ph.D., Southern Illinois University, 1971; 1970.

Lindsey, Jefferson F., Professor, *Emeritus*, Ed.D., University of Texas, 1962; 1967.

Meek, Clinton Roscoe, Professor, Ph.D., George Peabody College for Teachers, 1954; 1957.

Mouw, John T., Professor, Ed.D., University of South Dakota, 1968; 1968.

Pohlmann, John T., Associate Professor, Ph.D., Southern Illinois University, 1972; 1971.

Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952; 1955.

Snowman, Jack, Associate Professor, Ph.D., Indiana University, 1975; 1974. 1959; 1958.

White, Gordon, Assistant Professor, Ph.D., University of Iowa, 1969; 1971.

Woehlke, Paula L., Associate Professor, Ph.D., Arizona State University, 1973; 1973.

Yates, J. W., Professor, Ed.D., University of Missouri, Columbia, 1951; 1964.

Health Education

College of Education

Aaron, James E., Professor, Ed.D., New York University, 1960; 1957. Driver performance, alcohol and highway safety, traffic safety management, accident prevention principles.

Boydston, Donald N., Professor and *Chairperson*, Ed.D., Columbia University, 1949; 1955. Teacher education and preparation, content area instruction.

Bridges, A. Frank, Professor, *Emeritus*, D.H.S., Indiana University, 1952; 1947.

Casey, Ralph, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1956; 1957. Research design, community health program evaluation.

Denny, Florence E., Associate Professor, *Emerita*, M.A., Columbia University, 1935; 1929.

Duncan, David, Professor, D.P.H., University of Texas Health Science Center at Houston, 1977; 1978. Content area-related research, epidemiology, community health program evaluation.

Gold, Robert S., Associate Professor, Ph.D., University of Oregon, 1976; De.P.H., University of Texas (Houston), 1980. Computer-assisted instruction, industrial health promotion programs.

Grisson, Deward K., Professor, *Emeritus*, Ed.D., Columbia University, 1952; 1956.

LeFevre, John R., Professor, Ed.D., Teachers College, Columbia University, 1950; 1955. Sex education, school health education.

Lindauer, Larry, Associate Professor, Ph.D., Southern Illinois University, 1972; 1972. Safety education, teacher education and preparation, content area-related research.

Phillips, Frances K., Associate Professor, *Emerita*, M.A., Columbia University, 1940; 1944.

Richardson, Charles E., Professor, Ed.D., University of California, Los Angeles, 1959; 1954. Prematurity, sexuality, health care planning, patient education.

Ritzel, Dale, Professor, Ph.D., Southern Illinois University, 1970; 1966. Safety education injury control, research design, driving simulation, community safety.

Russell, Robert D., Professor, Ed.D., Stanford University, 1954; 1965. Ecological perspectives, education about mood modifying substances and sexuality, death education, innovative approaches in health education.

Slepceovich, Elena M., Professor, D.P.E., Springfield College, 1955; 1973. Curriculum

theory, professional preparation, bioethics, futurism.

Zunich, Eileen M., Assistant Professor, Ph.D., Southern Illinois University, 1970; 1967. Teacher education and preparation, school and college health program development, content area instruction.

Higher Education

College of Education

Adams, Frank C., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1962; 1957.

Caldwell, Oliver J., Professor, *Emeritus*, M.S. Oberlin College, 1927; 1966.

Casebeer, Arthur L., Professor, Ed.D., Oregon State University, 1963; 1969.

Davis I. Clark, Professor, *Emeritus*, Ed.D., Indiana University, 1956; 1949.

Dingerson, Michael R., Assistant Professor, Ph.D., Southern Illinois University, 1974; 1968.

Graham, Jack W., Professor, Ph.D., Purdue University, 1951; 1951.

Grinnell, John E., Professor, *Emeritus*, Ph.D., Stanford University, 1934; 1955.

Hawley, John B., Professor, Ph.D., University of Michigan, 1957; 1965.

Jung, Loren B., Professor, Ph.D., Southern Illinois University, 1969; 1965.

Keene, Roland, Professor, Ed.D., Washington University, 1962; 1958.

King, John E., Professor and *Chairperson*, Ph.D., Cornell University, 1941; 1967.

Morrill, Paul H., Professor, Ph.D., Northwestern University, 1956; 1964.

Spees, Emil R., Assistant Professor, Ph.D., Claremont Graduate School, 1969; 1969.

Swinburne, Bruce R., Associate Professor, Ed.D., Indiana University, 1970; 1970.

Tolle, Donald J., Professor, Ed.D., Florida State University, 1957; 1967.

Zimmerman, Elwyn, Assistant Professor, Ph.D., Michigan State University, 1963; 1966.

History

College of Liberal Arts

Adams, George W., Professor, *Emeritus*, Ph.D., Harvard University, 1946; 1958. United States: Civil War.

Allen, Howard W., Professor, Ph.D., University of Washington, 1959; 1962. United States: recent.

Ammon, Harry, Professor and *Chairperson*, Ph.D., University of Virginia, 1948; 1950. United States: early national.

Barton, H. Arnold, Professor, Ph.D., Princeton University, 1962; 1970. European: 18th century and French; Scandinavia.

Batinski, Michael C., Assistant Professor, Ph.D., Northwestern University, 1969; 1968. United States: Colonial.

Brehm, Donald L., Assistant Professor, Ph.D., St. Louis University, 1968; 1967. European: Medieval; Spain.

Carrott, M. Browning, Associate Professor,

Ph.D., Northwestern University, 1966; 1967. United States: constitutional.

Conrad, David E., Professor, Ph.D., University of Oklahoma, 1962; 1967. United States: economic, recent; American Indian.

Detwiler, Donald S., Professor, Dr. Phil., Goettingen University, Germany, 1961; 1967. European: diplomatic; Germany.

Dotson, John E., Assistant Professor, Ph.D., Johns Hopkins University, 1969; 1970. European: Renaissance, economic. Italy.

Fladeland, Betty L., Professor, Ph.D., University of Michigan, 1952; 1962. United States: middle period.

Gardiner, C. Harvey, Professor, *Emeritus*, Ph.D., University of Michigan, 1945; 1957. Latin American.

Gold, Robert L., Professor, Ph.D., University of Iowa, 1964; 1965. Latin American: Mexico, Caribbean, U.S. Borderlands.

Hallisey, Robert, Adjunct Associate Professor, Ph.D., University of Missouri, 1973; 1976. British: Imperialism; Asia.

Kuo, Ping-Chia, Professor, *Emeritus*, Ph.D., Harvard University, 1933; 1959. East Asian.

McFarlin, Harold A., Assistant Professor, Ph.D., Indiana University, 1971; 1969. European: Russian.

Murphy, James B., Associate Professor, Ph.D., Louisiana State University, 1968; 1968. United States: southern.

O'Day, Edward J., Instructor, A.M., Indiana University, 1956; 1962. European: 20th Century; East-central.

Shelby, Lon R., Professor, Ph.D., University of North Carolina, 1962; 1961. European: Medieval; Social.

Simon, John Y., Professor, Ph.D., Harvard University, 1961; 1964. Civil War and reconstruction, Illinois.

Vyverberg, Henry S., Professor, Ph.D., Harvard University, 1950; 1968. European: intellectual.

Werlich, David P., Associate Professor, Ph.D., University of Minnesota, 1968; 1968. Latin American: South American; Andean; Peruvian.

Wright, John I., Associate Professor, *Emeritus*, A.M., University of Chicago, 1933; 1925.

Wu, Tien-Wei, Professor, Ph.D., University of Maryland, 1965; 1972. Asian: East Asia; China.

Zucker, Stanley, Associate Professor, Ph.D., University of Wisconsin, 1968; 1967. European: Social; Germany.

Human Development

College of Human Resources

Ashraf, Hea-Ran Lee, Assistant Professor, Ph.D., Iowa State University, 1979; 1980.

Barnes, Mary Louise, Assistant Professor, *Emerita*, M.S., Iowa State College, 1931; 1929.

Brooks, Thomas M., Professor and *Acting Director*, Ph.D., Pennsylvania State University, 1961; 1971.

Eddleman, E. Jacqueline, Assistant Professor, Ph.D., Southern Illinois University, 1970; 1969.

Endres, Jeannette M., Associate Professor, Ph.D., St. Louis University, 1972; 1975.

Gulley, S. Beverly, Assistant Professor, Ph.D., Southern Illinois University, 1974; 1975.

Harper, Jeannie M., Professor, *Emerita*, Ph.D., Cornell University, 1941; 1958.

Konishi, Frank, Professor, Ph.D., Cornell University, 1958; 1961.

Lacey, Jerome, Assistant Professor, Ph.D., Southern Illinois University, 1975; 1976.

Payne, Irene R., Professor, Ph.D., Cornell University, 1960; 1965.

Quigley, Eileen, Professor, *Emerita*, Ed.D., University of Missouri, 1947; 1948.

Journalism

College of Communications and Fine Arts

Atwood, L. Erwin, Professor, Ph.D., University of Iowa, 1965; 1967. Communication theory, behavioral research methods, international communication.

Brown, George C., Professor, Ph.D., Southern Illinois University, 1963; 1956. Media management, media history, graphics, photography.

Clayton, Charles C., Professor, *Emeritus*, B.J., University of Missouri, 1925; 1955.

Ford, James L. C., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948; 1955.

Gruny, C. Richard, Assistant Professor, J.D., University of Illinois, 1959; 1959. Mass media law.

Hart, Jim Allee, Professor, *Emeritus*, Ph.D., University of Missouri, 1959; 1965.

Long, Howard R., Professor, *Emeritus*, Ph.D., University of Missouri, 1948; 1953.

McCoy, Ralph E., Professor, *Emeritus*, Ph.D., University of Illinois, 1956; 1955.

McKerns, Joseph, Assistant Professor, Ph.D., University of Minnesota, 1979; 1981. Mass communication history, mass media and society.

Murphy, James E., Assistant Professor, Ph.D., University of Iowa, 1974; 1979. Mass media and society, literary aspects, international communication, reporting and writing.

Murphy, Sharon M., Associate Professor, Ph.D., University of Iowa, 1973; 1979. Journalism history, minority media, intercultural communication, reporting and writing.

Rice, W. Manion, Associate Professor, Ph.D., Southern Illinois University, 1967; 1959. Community journalism, scholastic journalism, media history.

Riffe, Daniel, Assistant Professor, Ph.D., University of Tennessee, 1980; 1980. Communication theory and methodology, international news, mass media and society.

Stone, Vernon A., Professor and *Director*, Ph.D., University of Wisconsin, 1966; 1978.

Research methods, attitude change, source variables, broadcast journalism.

Stonecipher, Harry W., Associate Professor, Ph.D., Southern Illinois University, 1971; 1969. Mass media law, legal research, editorial and critical writing.

Latin American Studies

Departmental Affiliation of Interdisciplinary Program Faculty

Adams, Kendall A., Professor, Ph.D., Michigan State University, 1962; 1965 (Marketing).

Doerr, William A., Assistant Dean for Instruction, Ph.D., Southern Illinois University, 1973; 1965. (Agricultural Education and Mechanization.)

Fronidzi, Rizieri, Professor, *Emiterus*, Ph.D., National University of Mexico, 1950; 1970 (Philosophy).

Garner, William R., Associate Professor, Ph.D., Tulane University, 1963; 1966 (Political Science).

Gold, Robert L., Professor, Ph.D., University of Iowa, 1964; 1965 (History).

Gumberman, George J., Professor, Ph.D., University of Arizona, 1969; 1973 (Anthropology).

Hartman, Steven Lee, Assistant Professor, Ph.D., University of Wisconsin, 1971; 1971 (Foreign Languages and Literatures).

Kilker, James, Professor, Ph.D., University of Missouri at Columbia, 1961; 1967 (Foreign Languages and Literatures).

McBride, Charles, Associate Professor, Ph.D., University of Texas, 1968; 1972 (Foreign Languages and Literatures).

Meinhardt, Warren, Associate Professor, Ph.D., University of California at Berkeley, 1965; 1969 (Foreign Languages and Literatures).

Rands, Robert, Professor, Ph.D., Columbia University, 1952; 1966 (Anthropology).

Riley, Carroll L., Professor, Ph.D., University of New Mexico, 1952; 1955 (Anthropology).

Ugent, Donald, Associate Professor, Ph.D., University of Wisconsin, 1966; 1968 (Botany).

Werlich, David P., Associate Professor, Ph.D., University of Minnesota, 1968; 1968 (History).

Woodbridge, Hensley, Professor, Ph.D., University of Illinois, 1950; 1965. (Foreign Languages and Literatures.)

Library

Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University, 1978; 1956.

Bedient, Douglas, Assistant Professor, Ph.D., Southern Illinois University 1971; 1971.

Black, George W., Jr., Associate Professor, M.S.L.S., Columbia University, 1966; 1968.

Boydston, JoAnn, Professor, Ph.D., Columbia University, 1950; 1955.

Cluff, E. Dale, Associate Professor, Ph.D., University of Utah, 1976; 1980.

Cohn, Alan M., Professor, M.S., University of Illinois, 1955; 1955.

Matthews, Sidney E., Associate Professor, M.S.L.S., University of Illinois 1952; 1964.

Peterson, Kenneth G., Professor and *Dean*, Ph.D., University of California at Berkeley, 1968; 1976.

Simon, John Y., Professor, Ph.D., Harvard University, 1961; 1964.

Winsor, Donald L., Associate Professor, Ed.D., University of Florida, 1961; 1965.

Linguistics

College of Liberal Arts

Angelis, Paul, Associate Professor and *Chairman*, Ph.D., Georgetown University, 1968; 1981. Language testing, language teaching methodology, language acquisition.

Carrell, Patricia L., Associate Professor, Ph.D., University of Texas at Austin, 1966; 1968. Syntax-semantics-pragmatics, history of linguistics, African languages.

Gilbert, Glenn G., Professor, Ph.D., Harvard University, 1963; 1970. Sociolinguistics, dialectology, German.

Konneker, Beverly Hill, Assistant Professor, Ph.D., University of Texas at Austin, 1972; 1969. Historical linguistics, Indo-European, syntax.

Nguyen, Dinh-Hoa, Professor, Ph.D., New York University, 1956; 1969. EFL/ESL, linguistics, Vietnamese, Chinese, French.

Parish, Charles, Professor, Ph.D., University of New Mexico, 1959; 1965. EFL/ESL, methodology, pedagogy, materials development, Hebrew, Italian.

Perkins, Allan K., Associate Professor, Ph.D., University of Michigan, 1976; 1976. EFL/ESL, reading, learning strategies, second language acquisition, instructional design.

Redden, James E., Professor, Ph.D., Indiana University, 1965; 1967. EFL/ESL, field linguistics, African languages, Amerindian languages.

Marketing

College of Business and Administration

Adams, Kendall A., Professor, Ph.D., Michigan State University, 1962; 1965. Retailing management and industrial marketing.

Andersen, R. Clifton, Professor, D.B.A., Indiana University, 1960; 1967. Marketing management and marketing channels.

Dommermuth, William P., Professor and *Acting Chairman*, Ph.D., Northwestern University, 1964; 1968. Promotion, marketing research, and consumer behavior.

Hindersman, Charles H., Professor, D.B.A., Indiana University, 1959; 1960. Marketing management and business and society.

Moore, James R., Assistant Professor, Ph.D., University of Illinois, 1972; 1969. Marketing management, sales management and marketing channels.

Perry, Donald L., Associate Professor, Ph.D., University of Illinois, 1966; 1964. Social marketing.

Taylor, Ronald, Assistant Professor, Ph.D., North Texas State University, 1978; 1978. Marketing management, promotion management.

Walters, Glenn, Professor, Ph.D., University of Illinois, 1964; 1977. Marketing theory, consumer behavior, marketing channels.

Mathematics

College of Liberal Arts

Baartmans, Alphonse H., Associate Professor and *Chairperson*, Ph.D., Michigan State University, 1967; 1967.

Black, Amos H., Professor, *Emeritus*, Ph.D., Cornell University, 1932; 1948.

Bouwsma, Ward, Associate Professor, Ph.D., University of Michigan, 1962; 1967.

Burton, Theodore A., Professor, Ph.D., Washington State University, 1964; 1966.

Crenshaw, James A., Associate Professor, Ph.D., University of Illinois, 1967; 1967.

Dharmadhikari, Sudhakar, Professor, Ph.D., University of California at Berkeley, 1962; 1978.

Danhof, Kenneth, Associate Professor, Ph.D., Purdue University, 1969; 1969.

Earnest, Andrew, Assistant Professor, Ph.D., Ohio State University, 1975; 1981.

Feinsilver, Philip, Assistant Professor, Ph.D., New York University, 1975; 1978.

Foland, Neal E., Professor, Ph.D., University of Missouri, 1961; 1965.

Gates, Leslie D., Associate Professor, Ph.D., Iowa State University, 1952; 1961.

Gregory, John, Associate Professor, Ph.D., University of California at Los Angeles, 1970; 1972.

Grimmer, Ronald C., Professor, Ph.D., University of Iowa, 1967; 1967.

Hall, Dilla, Associate Professor, *Emeritus*, Ph.D., St. Louis University, 1955; 1924.

Hooker, John W., Assistant Professor, Ph.D., University of Oklahoma, 1967; 1967.

Hunsaker, Worthen N., Associate Professor, Ph.D., Washington State University, 1966; 1969.

Kammler, David, Professor, Ph.D., University of Michigan, 1971; 1971.

Kirk, Ronald B., Professor, Ph.D., California Institute of Technology, 1968; 1968.

Koch, Charles, Assistant Professor, Ph.D., University of Illinois, 1961; 1966.

Kuipers, Lauwerens, Professor, *Emeritus*, Ph.D., Vrije Universiteit (Amsterdam), 1947; 1966.

Langenhop, Carl E., Professor, Ph.D., Iowa State University, 1948; 1961.

Mark, Abraham M., Professor, Ph.D., Cornell University, 1947; 1950.

Maxwell, Charles, Professor, Ph.D., University of Illinois, 1955; 1963.

McDaniel, Wilbur C., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1939; 1939.

Moore, Robert A., Associate Professor, Ph.D., Indiana University, 1961; 1965.

Olmsted, John M. H., Professor, *Emeritus*, Ph.D., Princeton University, 1940; 1960.

Paine, Thomas B., Assistant Professor, Ph.D., University of Oregon, 1966; 1966.

Panchapakesan, S., Professor, Ph.D., Purdue University, 1969; 1970.

Parker, George D., Associate Professor, Ph.D., University of California at San Diego 1971; 1972.

Patula, William T., Associate Professor, Ph.D., Carnegie-Mellon University, 1971; 1972.

Pedersen, Franklin D., Associate Professor, Ph.D., Tulane University, 1967; 1965.

Pedersen, Katherine, Assistant Professor, Ph.D., Tulane University, 1969; 1965.

Redmond, Donald, Assistant Professor, Ph.D., University of Illinois, 1976; 1979.

Skalsky, Michael, Professor, D.Nat.Sc., University of Gottingen, 1949; 1957.

Snyder, Herbert H., Professor, Ph.D., Lehigh University, 1965; Ph.D., University of South Africa, 1971; 1966.

Spector, Scott J., Assistant Professor, Ph.D., Carnegie-Mellon University, 1978; 1981.

Starks, Thomas H., Associate Professor, Ph.D., Virginia Polytechnic Institute, 1959; 1961.

Wilson, Joseph C., Professor, Ph.D., Louisiana State University, 1954; 1957.

Zeman, Marvin, Assistant Professor, Ph.D., New York University, 1974; 1979.

Microbiology

College of Science

Borgia, Peter, Associate Professor, Ph.D., University of Illinois, 1973; 1976.

Caster, John, Assistant Professor, Ph.D., St. Louis University, 1968; 1972.

Clark, David P., Assistant Professor, Ph.D., University of Bristol, 1977; 1980.

Cooper, Morris D., Assistant Professor, Ph.D., University of Georgia, 1971; 1973.

Jackson, Robert, Professor, Ph.D., Purdue University, 1963; 1974.

Lev, Meir, Professor and *Chairman*, Ph.D., University of Reading, England, 1957; 1980.

Lindgren, Carl C., Professor, *Emeritus*, Ph.D., California Institute of Technology, 1931; 1947.

Madigan, Mike, Assistant Professor, Ph.D., University of Wisconsin, 1976; 1979.

Maroun, Leonard, Assistant Professor, Ph.D., Catholic University of America, 1970; 1972.

McClary, Dan O., Professor, Ph.D., Washington University, 1951; 1951.

Moticka, Edward, Associate Professor, Ph.D., University of Illinois, 1970; 1978.

Myers, Walter L., Professor, Ph.D., University of Wisconsin, 1962; 1973.

Parker, Jack M., Associate Professor, Ph.D., Purdue University, 1973; 1977.

Rouhandeh, Hassan, Professor, Ph.D., Kansas State University, 1959; 1967.

Rowan, Dighton F., Professor, Ph.D., Stanford University, 1954; 1973.

Shechmeister, Isaac L., Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1949; 1957.

Tewari, Ram P., Professor, Ph.D., Ohio State University, 1954; 1973.

Mining Engineering

Chugh, Yoginder P., Professor, Ph.D., 1971; 1977. Rock mechanics and strata control, production engineering in coal mines.

Sinha, Atmesh K., Associate Professor, Ph.D., 1963; 1975. Coal processing, mine electrical engineering, mine health and safety.

Molecular Science

Departmental Affiliation of Interdisciplinary Program Faculty

Bolen, D. Wayne, Associate Professor, Ph.D., (Chemistry and Biochemistry)

Borst, Walter L., Associate Professor, Ph.D., (Physics and Astronomy)

Bose, Subir K., Associate Professor, Ph.D., (Physics and Astronomy)

Brower, William E., Jr., Assistant Professor, Ph.D., (Engineering Mechanics and Materials)

Browning, Ronald A., Associate Professor, Ph.D., (School of Medicine)

Burton, Theodore A., Professor, Ph.D., (Mathematics)

Caspary, Donald M., Associate Professor, Ph.D., (School of Medicine)

Caster, John H., Assistant Professor, Ph.D., (Microbiology)

Chen, Juh Wah, Professor, Ph.D., (Thermal and Environmental Engineering)

Cutnell, John D., Associate Professor, Ph.D., (Physics and Astronomy)

Davis, Philip K., Professor, Ph.D., (Engineering Mechanics and Materials)

Dunaway, George A., Jr., Assistant Professor, Ph.D., (Chemistry and Biochemistry)

Emptage, Michael R., Assistant Professor, Ph.D., (Chemistry and Biochemistry)

Englert, Duwayne C., Professor, Ph.D., (Zoology)

Faingold, Carl L., Associate Professor, Ph.D., (School of Medicine)

Falvo, Richard E., Associate Professor, Ph.D., (School of Medicine)

Fang, Jen-Ho, Professor, Ph.D., (Geology)

Fieste, Vernold K., Associate Professor, Ph.D., (Electrical Sciences and Systems Engineering)

Gregory, John, Associate Professor, Ph.D., (Mathematics)

Gruber, Bruno J., Professor, Ph.D., (Physics and Astronomy)

Hadler, Herbert I., Professor, Ph.D., (Chemistry and Biochemistry)

Henneberger, Walter C., Professor, Ph.D., (Physics and Astronomy)

Hinckley, Conrad C., Professor, Ph.D., (Chemistry and Biochemistry)

Hunter, William S., Associate Professor, Ph.D., (School of Medicine)

Johnson, Kenneth W., Associate Professor, Ph.D., (Physics and Astronomy)

Kammler, David W., Professor, Ph.D., (Mathematics)

Koster, David F., Associate Professor, Ph.D., (Chemistry and Biochemistry)

Lit, Alfred, Professor, Ph.D., (Psychology)

Maroun, Leonard E., Assistant Professor, Ph.D., Catholic University, 1970; 1972.

McCalla, Thomas M., Associate Professor, Ph.D., (Electrical Sciences & Systems Engineering)

Meyers, Cal Y., Professor, Ph.D., (Chemistry and Biochemistry)

Miller, Donald M., Professor, Ph.D., (Physiology)

Nequin, Lynn G., Associate Professor, Ph.D., (School of Medicine)

O'Brien, William S., Assistant Professor, Ph.D., (Thermal and Environmental Engineering)

Orthwein, William C., Professor, Ph.D., (Engineering Mechanics and Materials)

Peterson, Rudolph N., Associate Professor, Ph.D., (School of Medicine)

Sami, Sedat, Professor, Ph.D., (Engineering Mechanics and Materials)

Sanders, Frank C. Jr., Associate Professor, Ph.D., (Physics and Astronomy)

Saporoschenko, Mykola, Associate Professor, Ph.D., (Physics and Astronomy)

Sendlein, Lyle V. A., Professor, Ph.D., (Geology)

Shepherd, Benjamin A., Associate Professor, Ph.D., (Zoology)

Sinha, Atmesh K., Associate Professor, Ph.D., (Thermal and Environmental Engineering)

Slocum, Donald W., Professor, Ph.D., (Chemistry and Biochemistry)

Smith, James G., Professor, Ph.D., (Electrical Sciences and Systems Engineering)

Smith, Gerard V., Professor, Ph.D., (Chemistry and Biochemistry)

Snyder, Herbert H., Professor, (Mathematics)

Sung, Michael T., Associate Professor, Ph.D., (Chemistry and Biochemistry)

Tyrrell, James, Associate Professor, Ph.D., (Chemistry and Biochemistry)

Watson, Richard E., Professor, Ph.D., (Physics and Astronomy)

Yopp, John H., Associate Professor, Ph.D., (Botany)

Zitter, Robert N., Professor, Ph.D., (Physics and Astronomy)

Music

College of Communications and Fine Arts

Barwick, Steven, Professor, Ph.D., Harvard University, 1949; 1955.

Bateman, Marianne Webb, Professor, M.Mus., University of Michigan, 1959; 1965.

Bergt, Robert, Associate Professor, S.T.M., Concordia Seminary, 1958; 1974.

Coker, Wilson W., Professor, D.M.A., University of Illinois, 1965; 1975.

Denker, Fred, Professor, *Emeritus*, Ph.D., Eastman School of Music, 1951; 1957.

Eddins, John, Assistant Professor, Ph.D., Florida State University, 1966; 1969.

Gordon, Roderick, Professor, Ph.D., University of Wisconsin, 1953; 1963.

Grizzell, Mary Jane, Assistant Professor, M.Mus., Eastman School of Music, 1943; 1959.

Hanes, Michael D., Assistant Professor, M.M.Ed., Southern Illinois University, 1965; 1970.

House, Mary Elaine Wallace, Professor, *Emerita*, M. Mus., University of Illinois, 1954; 1969.

Hunt, C. B., Jr., Professor, Ph.D., University of California, Los Angeles, 1949; 1974.

Hussey, George, Associate Professor, M.A.Ed., Washington University, 1963; 1963.

Kingsbury, Robert, Associate Professor, M.Mus., Northwestern University, 1952; 1961.

McHugh, Catherine, Professor, Ed.D., Columbia University, 1959; 1969.

McIntosh, David, Associate Professor, *Emeritus*, M.A., University of Iowa, 1935; 1927.

Mueller, Robert, Professor, Ph.D., Indiana University, 1964; 1948.

Olsson, Phillip, Professor, M.Mus., Chicago Conservatory, 1949; 1949.

Poulos, Helen, Assistant Professor, D.M., Indiana University, 1971; 1969.

Resnick, Robert, Professor, M.Mus., Wichita State University, 1949; 1949.

Roubos, Robert, Professor and *Director*, D.M.A., University of Michigan, 1965; 1981.

Siener, Melvin, Associate Professor, M.A., University of Iowa, 1954; 1962.

Taylor, Charles, Associate Professor, Ed.D., Columbia University, 1950-1957.

Underwood, Jervis, Professor, Ph.D., North Texas State University, 1970, 1971.

Werner, Kent, Associate Professor, Ph.D., University of Iowa, 1966; 1963.

Wharton, John, Associate Professor, *Emeritus*, M.Mus., American Conservatory, 1940; 1945.

Philosophy

College of Liberal Arts

Clarke, David S., Jr., Professor, Ph.D., Emory University, 1964; 1966. Philosophy of language, logic.

Diefenbeck, James A., Professor and *Chairperson*, Ph.D., Harvard University, 1950; 1950. History of philosophy, philosophy of history, political philosophy.

Eames, Elizabeth R., Professor, Ph.D., Bryn Mawr College, 1951; 1963. Recent British philosophy, American philosophy, action theory.

Eames, S. Morris, Professor, Ph.D., University of Chicago, 1958; 1963. Pragmatism, American philosophy.

Fronidzi, Risieri, Professor, *Emeritus*, Ph.D., National University of Mexico, 1950; 1970.

Gillan, Garth J., Associate Professor, Ph.D., Duquesne University, 1966; 1969. Critical theory, continental philosophy.

Hahn, Lewis E., Research Professor, *Emeritus*, Ph.D., University of California, 1939; 1963.

Hayward, John, Professor, Ph.D., University of Chicago, 1949; 1968. Philosophy of religion, aesthetics.

Howie, John, Associate Professor, Ph.D., Boston University, 1965; 1966. Philosophy of religion, ethics, American idealism.

Kelly, Matthew J., Associate Professor, Ph.D., University of Notre Dame, 1963; 1966. Medieval philosophy, Greek philosophy, metaphysics.

McClure, George T., Professor, Ph.D., Ohio State University, 1958; 1958. Epistemology, philosophy of science, aesthetics.

Moore, Willis, Professor, *Emeritus*, Ph.D., University of California, 1936; 1955.

Plochmann, George Kimball, Professor, Ph.D., University of Chicago, 1950; 1949. Metaphysics, history of philosophy, philosophy of biology.

Schedler, George, Associate Professor, Ph.D., University of California at San Diego, 1973; 1973. Philosophy of law, ethics, social philosophy.

Schilpp, Paul A., *Emeritus*, Ph.D., Stanford University, 1936; 1965.

Tenney, Charles, University Professor, *Emeritus*, Ph.D., University of Oregon, 1931; 1931.

Physical Education

College of Education

Ackerman, Kenneth, Assistant Professor, M.A., Michigan State University, 1959; 1969.

Baker, John A. W., Assistant Professor, Ph.D., University of Iowa 1979; 1980.

Carroll, Peter, Assistant Professor, Ph.D., Pennsylvania State University, 1970; 1969.

Davies, Dorothy R., Professor, *Emerita*, Ed.D., University of Cincinnati, 1944; 1939.

Franklin, C. C., Associate Professor, M.S.Ed., Indiana University, 1946; 1948.

Good, Larry, Associate Professor, Ed.D., Temple University, 1968; 1967.

Ho, Linda, Assistant Professor, Ph.D., University of Colorado, 1980; 1980.

Idoine, Sallie, Assistant Professor, M.M., Florida State University, 1972; 1976.

Knowlton, Ronald, Professor, Ph.D., University of Illinois, 1961; 1961.

Potter, Marjorie Bond, Professor, *Emerita*, Ph.D., University of Southern California, 1958; 1961.

Shea, Edward, Professor, Ph.D., New York University, 1955; 1954.

Spackman, Robert, Associate Professor, M.S.Ed., Southern Illinois University, 1960, 1957.

Stotlar, John, Associate Professor, *Emeritus*, D.P.Ed., Indiana University, 1954; 1948.

Thirer, Joel, Associate Professor, Ph.D., Florida State University, 1976; 1976.

Thorpe, JoAnne Lee, Professor, Ph.D., Texas Woman's University, 1964; 1958.

Wade, Michael, Professor and *Chairperson*, Ph.D., University of Illinois, 1970; 1981.

West, Charlotte, Professor, Ph.D., University of Wisconsin, 1969; 1957.

Zimmerman, Helen, Professor, *Emerita*, Ph.D., University of Wisconsin, 1951; 1952.

Physics and Astronomy

College of Science

Arvin, Martin J., Professor, *Emeritus*, Ph.D., University of Illinois, 1934; 1949.

Borst, Walter L., Associate Professor, Ph.D., University of California, Berkeley, 1968; 1971.

Bose, Subir K., Associate Professor, Ph.D., University of Allahabad, India, 1967; 1968.

Brasefield, Charles J., Professor, *Emeritus*, Ph.D., Princeton University, 1927; 1954.

Cutnell, John D., Associate Professor, Ph.D., University of Wisconsin, 1967; 1968.

Gruber, Bruno J., Professor, Ph.D., University of Vienna, Austria, 1961; 1972.

Henneberger, Walter C., Professor, Ph.D., Gottingen University, Germany, 1959; 1963.

Johnson, Kenneth W., Associate Professor, Ph.D., Ohio State University, 1967; 1970.

Malik, F. Bary, Professor and *Chairperson*, Ph.D., Gottingen University, 1958; 1980.

Nickell, William E., Professor, Ph.D., University of Iowa, 1954; 1963.

Sanders, Frank C., Jr., Associate Professor, Ph.D., University of Texas, 1968; 1969.

Saporoschenko, Mykola, Associate Professor, Ph.D., Washington University, 1958; 1965.

Telschow, Kenneth L., Associate Professor, Ph.D., University of California, Los Angeles, 1973; 1976.

Watson, Richard E., Professor, *Emeritus*, Ph.D., University of Illinois, 1938; 1958.

Young, Otis B., Professor, *Emeritus*, Ph.D., University of Illinois, 1928; 1929.

Zitter, Robert N., Professor, Ph.D., University of Chicago, 1962; 1967.

Physiology

College of Science

Bone, Leon, Assistant Professor, Ph.D., University of Arkansas, 1976; 1979. Invertebrate

pheromones; control of parasitic helminths by pheromones.

Doorenbos, Norman, Professor, Ph.D., University of Michigan, 1954; 1977. Naturally occurring bioactive substances, herbal drugs, toxins, plant materials used in drug abuse.

Dunagan, Tommy T., Professor and *Acting Chairman*, Ph.D., Purdue University, 1960; 1962 Physiology and biochemistry of *Acanthocephala*, carbohydrate metabolism, nervous system, lacunar system.

Footte, Florence M., Professor, *Emerita*, Ph.D., University of Iowa, 1940; 1963.

Kaplan, Harold M., Professor, *Emeritus*, Ph.D., Harvard University, 1933; 1949.

Miller, Donald M., Professor, Ph.D., University of Illinois, 1965; 1966. Halophilic blue-green alga, *Acanthocephalan* parasites, migration in slime mold, toxins and snake venom.

Richardson, Alfred W., Professor, Ph.D., University of Iowa, 1949; 1966.

Russell, Lonnie D., Associate Professor, Ph.D., University of Nebraska, 1974; 1977. Male reproductive system, cell-to-cell relationships in the testis, Sertoli cell, hormonal control.

Plant and Soil Science

College of Agriculture

Caster, Alfred B., Professor, *Emeritus*, Ph.D., University of Arizona, 1941; 1957.

Coorts, Gerald D., Professor and *Chairperson*, Ph.D., University of Illinois, 1964; 1968. Floriculture and greenhouse management.

Elkins, Donald M., Professor, Ph.D., Auburn University, 1967; 1967. Field and forage crops, plant growth regulators.

Hillyer, Irvin G., Professor, Ph.D., Michigan State University, 1956; 1956. General horticulture and vegetable production.

Jones, Joe H., Associate Professor, Ph.D., Ohio State University, 1960; 1964. Soil conservation, soil physics, soil and water relationships.

Kapusta, George, Professor, Ph.D., Southern Illinois University, 1975; 1964. Weed control and crop production.

Klubek, Brian P., Assistant Professor, Ph.D., Utah State University, 1977; 1978. Soil microbiology.

Leasure, J. K., Professor, *Emeritus*, Ph.D., University of Illinois, 1953; 1966. Herbicides and weed control, statistics.

Mowry, James B., Professor, *Emeritus*, Ph.D., Rutgers University, 1951; 1951. Fruit culture and pest control.

Myers, Oval, Jr., Professor, Ph.D., Cornell University, 1963; 1968. Plant genetics and breeding.

Olsen, Farrel J., Professor, Ph.D., Rutgers University, 1961; 1971. Forages and pasture agronomy.

Portz, Herbert L., Professor, Ph.D., University of Illinois, 1954; 1954. Field crops and turf management.

Stucky, Donald J., Associate Professor, Ph.D., Purdue University, 1963; 1970. Crop physiology, crop ecology, crop production and environmental aspects.

Tweedy, James A., Professor, Ph.D., Michigan State University, 1966; 1966. Herbicides and weed control.

Varsa, Edward C., Assistant Professor, Ph.D., Michigan State University, 1970; 1970. Soil chemistry, fertility, and management.

Political Science

College of Liberal Arts

Alexander, Orville, Professor, *Emeritus*, Ph.D., University of Iowa, 1936; 1938.

Baker, John H., Associate Professor, Ph.D., Princeton University, 1961; 1966. American politics, urban politics, intergovernmental relations.

Chou, Ikua, Professor, Ph.D., Fletcher School of Law and Diplomacy, 1949; 1964. Comparative politics, international politics, Marxist theory, comparative Communism.

Dale, Richard, Associate Professor, Ph.D., Princeton University, 1962; 1966. African politics, comparative politics, international politics, and civil-military politics.

Derge, David Richard, Professor, Ph.D., Northwestern University, 1955; 1972. American politics, institution-building in developing nations, administrative decision-making.

Desai, Uday, Assistant Professor, Ph.D., University of Pittsburgh, 1973; 1978. Public administration, public policy, organizational theory.

Ervin, Osbin L., Assistant Professor, Ph.D., University of Tennessee, 1974; 1974. Public administration, policy analysis, environmental and land-use policy.

Foster, John L., Associate Professor and *Chairperson*, Ph.D., University of Minnesota, 1971; 1975. Organizational behavior and theory, urban government, methodology.

Garner, William R., Associate Professor, Ph.D., Tulane University, 1963; 1966. Latin American politics, inter-American relations, political culture/socioalization, political philosophy.

Hanson, Earl Thomas, Professor, *Emeritus*, Ph.D., University of Illinois, 1948; 1960.

Hardenbergh, William, Professor, Ph.D., University of Illinois, 1954; 1960. Comparative politics, especially Britain and old Commonwealth countries, South Asia, Middle East.

Jackson, John S., III, Professor, Ph.D., Vanderbilt University, 1971; 1969. American government and politics, political parties, public opinion, state and local government.

Jacobini, Horace B., Professor, Ph.D., University of Kansas, 1951; 1957. International relations, comparative politics, jurisprudence, administrative law.

Kamarasy, Egon K., Assistant Professor, Doctor Politics, Budapest University, Hungary, 1942; 1959. Comparative politics (Europe),

contemporary political ideologies, social policy, environmental protection.

Klingberg, Frank L., Professor, *Emeritus*, Ph.D., University of Chicago, 1938; 1946.

Landecker, Manfred, Associate Professor, Ph.D., Johns Hopkins University, 1965; 1959. International relations, U.S. foreign policy, comparative politics and foreign policy, economic and political development.

Mace, George R., Associate Professor, Ph.D., Claremont Graduate School, 1963; 1970.

McGrath, Robert A., Professor, *Emeritus*, Ph.D., University of Iowa, 1947; 1949.

Melone, Albert, Associate Professor, Ph.D., University of Iowa, 1972; 1979.

Miller, Roy E., Associate Professor, Ph.D., University of Illinois, 1971; 1967. Methodology, American political behavior.

Morton, Ward M., Professor, *Emeritus*, Ph.D., University of Texas, 1941; 1949.

Nelson, Randall H., Professor, Ph.D., University of Michigan, 1956; 1955. American constitutional law, judicial process, and behavior, American chief executive, American politics.

Paine, JoAnn P., Associate Professor, Ph.D., University of Oregon, 1967; 1966. Empirical theory, international politics, comparative politics.

Ridgeway, Marian E., Professor, *Emerita*, Ph.D., University of Illinois, 1952; 1952.

Roper, Robert T., Assistant Professor, Ph.D., University of Kentucky, 1978; 1978. American politics, public law.

Seroka, James H., Associate Professor, Ph.D., Michigan State University, 1976; 1979. Public administration, public personnel administration.

Somit, Albert, Professor, Ph.D., University of Chicago, 1947; 1980. Political theory and biopolitics.

Stauber, Leland G., Associate Professor, Ph.D., Harvard University, 1964; 1966. Socialism, comparative public policy, comparative government and politics.

Turley, William S., Associate Professor, Ph.D., University of Washington, 1972; 1971. International relations, comparative politics.

Psychology

College of Liberal Arts

Bekker, L. Demoyne, Associate Professor, Ph.D., Ohio State University, 1968; 1969. Clinical, personality development, family interactions, family therapy, marital relationships.

Bliss, David K., Associate Professor, Ph.D., University of California at Berkeley, 1968; 1974. Experimental, physiological, animal behavior, psychopharmacology.

Brutten, Gene J., Professor, Ph.D., University of Illinois, 1957; 1957.

Buck, Terence D., Associate Professor, Ph.D., University of Missouri, 1968; 1969. Counseling, and psychotherapy, group process

and group dynamics, management of psychological services.

Carrier, Neil A., Professor, Ph.D., University of Michigan, 1956; 1957. Experimental, college teaching, classroom performance, assessment of instruction.

Dillon, Ronna, Assistant Professor, Ph.D., University of California at Riverside, 1978; 1978. Experimental, cognitive processes, individual differences, human psychophysiology.

Dollinger, Stephen, Associate Professor, Ph.D., University of Missouri, 1977; 1977. Clinical, child psychopathology and therapy, intrinsic motivation, social learning theory.

Ehrenfreund, David, Professor, Ph.D., State University of Iowa, 1947; 1962. Experimental, learning theory, motivation, discrimination learning.

Gannon, Linda, Associate Professor, Ph.D., University of Wisconsin, 1975; 1975. Clinical, human psychophysiology, biofeedback, psychosomatic disorders, learned helplessness, feminist therapy.

Graham, Jack W., Professor, Ph.D., Purdue University, 1951; 1951. Counseling, measurement and evaluation.

Haynes, Stephen N., Professor, Ph.D., University of Colorado, 1971; 1976. Clinical, behavioral assessment, behavioral analysis and intervention with marital dysfunction and psychophysiologic disorders.

Kelley, Noble, H., Professor, Emeritus, Ph.D., State University of Iowa, 1936; 1951.

Lit, Alfred, Professor, Ph.D., Columbia University, 1948; 1961. Experimental, visual science, perception, human engineering.

McCarthy, Patricia R., Assistant Professor, Ph.D., Ohio State University, 1978; 1979. Counseling, counseling process, community psychology, interactionist theories of behavior.

McHose, James H., Professor and Chairperson, Ph.D., University of Iowa, 1961; 1961. Experimental, learning theory, motivation, animal learning.

McKillip, John A., Associate Professor, Ph.D., Loyola University of Chicago, 1974; 1975. Experimental, counseling, program evaluation impression formation, intergroup interaction.

Meltzer, Donald, Professor, Ph.D., University of Pittsburgh, 1963; 1966. Experimental, learning instrumentation, psychopharmacology.

Miller, H. Richard, Associate Professor, Ph.D., University of Missouri, 1967; 1973. Counseling, outcomes of therapy, anxiety reduction, training effectiveness, cognitive development in training counselors.

Mitchell, Thomas O., Associate Professor, Ph.D., University of Colorado, 1969; 1968. Experimental, social, psycholinguistics, person perception, computer simulation of social behavior.

Molfese, Dennis L., Professor, Ph.D., Pennsylvania State University, 1972; 1972. Experimental, developmental, neurolinguistics, psycholinguistics, cognition.

Molfese, Victoria J., Associate Professor, Ph.D., Pennsylvania State University, 1974; 1972. Experimental, developmental, cognition, psycholinguistics, aging.

O'Donnell, James P., Associate Professor, Ph.D., University of Pittsburgh, 1965; 1965. Clinical, child psychopathology, clinical neuropsychology.

Pitz, Gordon F., Professor, Ph.D., Carnegie-Mellon University, 1963; 1963. Experimental, decision making, cognitive processes and judgment.

Purcell, Thomas D., Associate Professor, Ph.D., Southern Illinois University, 1965; 1960.

Radtke, Robert C., Associate Professor, Ph.D., State University of Iowa, 1963; 1966. Experimental, memory, cognitive processes, aging.

Rafferty, Janet E., Professor, Ph.D., Ohio State University, 1952; 1954. Clinical, personality, child, prevention and intervention.

Ramanaiah, Nerella, Associate Professor, Ph.D., University of Oregon, 1971; 1971. Experimental, personality assessment, clinical judgment, test theory, quantitative methods.

Ringuette, Eugene L., Associate Professor, Ph.D., Purdue University, 1963; 1967. Clinical, psychology-law research, personality theory and dynamics, psychotherapy.

Schill, Thomas R., Professor, Ph.D., Oklahoma State University, 1963; 1963. Clinical, personality theory and dynamics, personality evaluation, rational emotive psychotherapy.

Schmeck, Ronald R., Professor, Ph.D., Ohio University, 1969; 1969. Experimental, learning and motivation teaching methods, individual differences in learning.

Shoemaker, Donald J., Professor, Ph.D., Ohio State University, 1955; 1960. Clinical, development and treatment of stuttering, psychotherapy, family interactions.

Slaney, Robert B., Assistant Professor, Ph.D., Ohio State University, 1973; 1981. Counseling career counseling, adult development, research in counseling, career intervention.

Smith, Douglas C., Assistant Professor, Ph.D., Kansas State University, 1977; 1979. Experimental, biopsychology, neurophysiology, vision, development.

Snyder, John F., Associate Professor, Ph.D., Loyola University, 1965; 1968. Counseling, crisis intervention, consultation, supervision, rural drug abuse prevention programming, group process.

Tinsley, Diane J., Assistant Professor, Ph.D., University of Minnesota, 1972; 1978. Counseling, assessment of training and supervision, women's career development, human life styling, counselor selection.

Tinsley, Howard E.A., Associate Professor, Ph.D., University of Minnesota, 1971; 1973. Counseling, career counseling, psychological measurement, leisure activities, personality.

Westberg, William C., Professor, Emeritus, Ph.D., Pennsylvania State University, 1948; 1952.

Yanico, Barbara, Assistant Professor, Ph.D., Ohio State University, 1977; 1978. Counseling, personality, personal adjustment, psychology of women, sex roles, appraisal/testing, counseling theories, vocational development.

Public Visual Communications

Departmental Affiliation of Interdisciplinary Program Faculty

Blumenberg, Richard, Associate Professor, Ph.D., (Cinema and Photography)

Cocking, Loren D., Assistant Professor, M.A., (Cinema and Photography)

Covell, Michael D., Assistant Professor, M.F.A., (Cinema and Photography)

Dybvig, H. Eugene, Associate Professor, Ph.D., (Radio-Television)

Gilmore, David A., Associate Professor, M.F.A. (Cinema and Photography)

Harpole, Charles H., Assistant Professor, Ph.D., (Cinema and Photography)

Hildreth, Richard, Assistant Professor, M.S., (Radio-Television)

Horrell, C. William, Professor, Ed.D., (Cinema and Photography)

Kolb, Gary, Assistant Professor, M.F.A., (Cinema and Photography)

Lyons, Timothy J., Ph.D., (Cinema and Photography)

Mercer, John, Professor, Ph.D., (Cinema and Photography)

Paine, Frank, Associate Professor, B.S., (Cinema and Photography)

Powell, W. Duane, M.F.A., (Cinema and Photography)

Shipley, Charles W., Professor, Ph.D., (Radio-Television)

Sitaram, K. S., Professor, Ph.D., (Radio-Television)

Swedlund, Charles A., Professor, M.S., (Cinema and Photography)

Radio-Television

College of Communications and Fine Arts

Dybvig, Homer E., Associate Professor, Ph.D., Southern Illinois, 1970; 1961.

Hildreth, Richard, Assistant Professor, M.S., Syracuse University, 1968; 1968.

Kurtz, John L., Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University, 1973; 1962.

Oglesbee, Frank, Assistant Professor, Ph.D., University of Missouri, 1969; 1972.

Robbins, Buren C., Associate Professor, *Emeritus*, M.A., University of Iowa, 1935; 1949.

Shipley, Charles W., Professor, Ph.D., Florida State University, 1971; 1971.

Sitaram, K. S., Professor, Ph.D., University of Oregon, 1969; 1979.

Swan, Sam, Assistant Professor and *Acting Chairperson*, Ph.D., University of Missouri, 1978; 1981.

Recreation

College of Education

Allen, John R., Associate Professor, Ph.D., Southern Illinois University, 1977; 1977.

Cleary, Leonard, Assistant Professor, Ph.D., University of Illinois, 1978; 1978.

Freeberg, William, Professor (*Emeritus*), Re.D., Indiana University, 1950; 1942.

Kinney, Walter B., Assistant Professor, Ph.D., New York University, 1976; 1980.

Loveland, Norma Jean, Assistant Professor, Re.D., Indiana University, 1975; 1975.

McEwen, Douglas, Associate Professor, Ph.D., Michigan State University, 1973; 1975.

O'Brien, William, Professor and *Chairperson*, Re.D., Indiana University, 1967; 1948.

Smith, Owen R., Assistant Professor, Ph.D., University of Utah, 1974; 1974.

Taylor, Loren, Professor *Emeritus*, Ed.D., Columbia University, 1957; 1957.

Teaff, Joseph D., Associate Professor, Ed.D., Columbia University, 1973; 1980.

Rehabilitation Institute

College of Human Resources

Allen, Harry A., Associate Professor, Ed.D., University of Arkansas, 1971; 1970.

Azrin, Nathan H., Professor, Ph.D., Harvard University, 1956; 1958.

Baker, Richard J., Associate Professor, Ed.D., Auburn University, 1972; 1974.

Bender, Eleanor, Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1972; 1961.

Bryson, Seymour L., Associate Professor, Ph.D., Southern Illinois University, 1972; 1969.

Colvin, Robert H., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1971; 1972.

Cuvo, Anthony J., Professor, Ph.D., University of Connecticut, 1973; 1973.

Dickey, Thomas W., Associate Professor, *Emeritus*, M.A., Southern Illinois University, 1964; 1964.

Falvo, Donna, Assistant Professor, Ph.D., Southern Illinois University, 1978; 1974.

Gardner, Margaret S., Associate Professor, Ph.D., Northwestern University, 1960; 1968.

Goldman, Samuel, Professor, Ph.D., University of Chicago, 1961; 1980.

Greene, Brandon, Assistant Professor, Ph.D., Florida State University, 1979; 1979.

Grenfell, John E., Professor, Ed.D., Oregon State University, 1966; 1966.

Hafer, Marilyn, Assistant Professor, Ph.D., Texas Tech University, 1971; 1979.

Hawley, Irene B., Assistant Professor, Ph.D., Southern Illinois University, 1973; 1968.

Lee, Robert E., Associate Professor, *Emeritus*, Ph.D., University of Minnesota, 1964; 1964.

Lorenz, Jerome R., Associate Professor and *Director*, Ph.D., University of Wisconsin, 1973; 1973.

Lutzker, John, Associate Professor, Ph.D., University of Kansas, 1970; 1973.

Maki, Dennis, Assistant Professor, Ph.D., University of Wisconsin, 1979; 1979.

Miranti, Joseph P., Professor, M.D., Loyola University of Chicago, 1950; 1961.

Peterson, James, Assistant Professor, Ph.D., Southern Illinois University, 1976; 1978.

Poppen, Roger L., Associate Professor, Ph.D., Stanford University, 1968; 1970.

Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952; 1955.

Riggar, Theodore, Ed.D., University of Northern Colorado, 1977; 1979.

Rubin, Harris B., Professor, Ph.D., University of Chicago, 1965; 1966.

Rubin, Stanford E., Professor, Ed.D., University of Illinois, 1968; 1980.

Sawyer, Horace W., Associate Professor, Ed.D., Auburn University, 1973; 1977.

Schumacher, Brockman, Professor, Ph.D., Washington University, 1969; 1967.

Vieceli, Louis, Associate Professor, M.S.Ed., Southern Illinois University, 1959; 1958.

Religious Studies

College of Liberal Arts

Hayward, John F., Professor and *Chairperson*, Ph.D., University of Chicago, 1949; 1968.

Social and Community Service

College of Human Resources

Alliband, Terry T., Assistant Professor, Ph.D., University of Iowa, 1974; 1975. Community development, community organizing, international community development, folk-arts development.

Auerbach, Arnold J., Professor, *Emeritus*, Ph.D., University of Pittsburgh, 1961; 1972.

Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, India, 1969; 1968. Community development, comparative community development, international development, political theory and social and economic change, peasant movements.

Denise, Paul S., Assistant Professor, Ph.D., University of California, Berkeley, 1974; 1968. Community development, citizen participation, urban sociology, social change, race and ethnic relations, social stratification, experiential education, and social impact of energy development.

Ehrlich, Ira F., Professor, D.S.W., Washington University, 1970; 1976. Social welfare.

Fauri, David, Professor and *Director*, Ph.D., Southern Illinois University, 1972; 1980. Social work.

Poston, Richard, Professor, *Emeritus*, B.A., University of Montana, 1940; 1953.

Rosen, Anita, Assistant Professor, Ph.D., Southern Illinois University, 1975; 1971. Social work.

Thomas, Richard M., Professor, D.Ed., Uni-

versity of California, Los Angeles, 1964; 1966. Community development, social change theory, role theory and analysis, international development, small groups and leadership training, community and adult education, survey and action research, community studies.

Wakeley, Raymond E., Professor, *Emeritus*, Ph.D., Cornell University, 1928; 1961. Community development, community studies, rural sociology, demography.

Sociology

College of Liberal Arts

Alix, Ernest K., Associate Professor, Ph.D., Southern Illinois University, 1966; 1967. Deviance, sociology of criminal law, criminology.

Brooks, Melvin, Associate Professor, Ph.D., University of Wisconsin, 1941; 1956. Race and ethnic relations, methodology, interpersonal adjustment, migrant farm labor.

Burger, Thomas, Associate Professor, Ph.D., Duke University, 1972; 1973. Contemporary theory, history of social thought, social stratification.

Eynon, Thomas G., Professor, Ph.D., Ohio State University, 1959; 1968. Criminology, corrections and social control.

Greenstein, Theodore, Assistant Professor, Ph.D., Washington State University, 1976; 1976. Social psychology, research methods, statistics.

Hawkes, Roland K., Associate Professor, Ph.D., Johns Hopkins University, 1967; 1970. Statistics, research methods, formal theory, social stratification.

Hendrix, Lewellyn, Associate Professor, Ph.D., Princeton University, 1974; 1971. Family, social stratification.

Johnson, Elmer H., Professor, Ph.D., University of Wisconsin, 1950; 1966. Social deviance, criminology.

Lantz, Herman R., Professor, Ph.D., Ohio State University, 1950; 1950. Sociology of the family, community studies, sociology of science, sociology of language.

Marcum, John P., Jr., Assistant Professor, Ph.D., University of Texas, 1976; 1976. Population, family, aging.

Meddin, Jay R., Assistant Professor, Ph.D., University of Kentucky, 1973; 1972. Social change, social psychology, American society.

Munch, Peter A., Professor, *Emeritus*, Ph.D., University of Oslo, 1946; 1957. Theory, community studies.

Nall, Frank C., II, Associate Professor, Ph.D., Michigan State University, 1959; 1964. Culture and social structure, urban sociology, social systems theory.

Shelby, Lon R., Professor, Ph.D., University of North Carolina, 1962; 1979.

Snyder, Charles R., Professor and *Chairperson*, Ph.D., Yale University, 1954; 1960. Social deviance, critical criminology, alcohol studies.

Special Education

College of Education

Bates, Paul, Assistant Professor, Ph.D., University of Wisconsin, 1978; 1978.

Casey, John P., Professor, Ed.D., Indiana University, 1963; 1964.

Cordoni, Barbara, Associate Professor, Ed.D., Duke University, 1976; 1977.

Crowner, James, Professor, Ph.D., Michigan State University, 1960; 1966.

Ewing, Norma J., Assistant Professor, Ph.D., Southern Illinois University, 1974; 1973.

Hisama, Toshiaki, Associate Professor, Ph.D., University of Oregon, 1971; 1971.

Joiner, Lee M., Professor, Ph.D., Michigan State University, 1966; 1968.

Juul, Kristen, Professor, Ph.D., Wayne State University, 1953; 1970.

McKay, Elizabeth B., Associate Professor, *Emerita*, Ph.D., Syracuse University, 1952; 1952.

Miller, Sidney, Associate Professor, Ph.D., The Pennsylvania State University, 1974; 1978.

Morgan, Howard, Professor, Ed.D., Wayne State University, 1962; 1969.

Rainey, Dan, Assistant Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1956; 1957.

Sabatino, David A., Professor and *Chairman*, Ph.D., Ohio State University, 1966; 1978.

Sedlak, Robert A., Associate Professor, Ph.D., Pennsylvania State University, 1973; 1978.

Stoneburner, Robert L., Associate Professor, Ph.D., University of Illinois, 1974; 1973.

Teska, James A., Associate Professor, Ph.D., University of Illinois, 1969; 1973.

Speech Communication

College of Communications and Fine Arts

Breniman, Lester R., Associate Professor, *Emeritus*, Ph.D., Ohio State University, 1953; 1954.

Bytwerk, Randall L., Associate Professor, Ph.D., Northwestern University, 1975; 1975. Rhetoric and public address.

Deetz, Stanley, Associate Professor, Ph.D., Ohio University, 1973; 1977. Interpersonal and small group communication, phenomenology and philosophy of communication.

Hibbs, R.P., Professor, *Emeritus*, A.M., University of Wisconsin, 1942; 1965. Communication education.

Higgerson, Mary Lou, Assistant Professor, Ph.D., University of Kansas, 1974; 1973. Organizational communication and public relations.

Holdridge, William E., Assistant Professor, Ph.D., University of Illinois, 1974; 1977. Interpersonal and small group communication, rhetoric and public address.

Kleinau, Marion L., Professor, Ph.D., University of Wisconsin, 1961; 1959. Oral interpretation, communication education.

Kleinau, Marvin D., Associate Professor and *Chairman*, Ph.D., Southern Illinois University, 1977; 1963. Communication education, rhetoric, and public address.

Lanigan, Richard L., Professor, Ph.D., Southern Illinois University, 1969; 1974. Phenomenology and philosophy of communication, semiology.

MacDonald, Donald, Associate Professor, Ph.D., Michigan State University, 1971; 1976. Organizational communication and public relations.

Micken, Ralph A., Professor, *Emeritus*, Ph.D., Northwestern University, 1948; 1957.

Pace, Thomas J., Professor, Ph.D., University of Denver, 1957; 1965. Interpersonal and small group communication, phenomenology and philosophy of communication.

Parkinson, Michael, Assistant Professor, Ph.D., University of Oklahoma, 1978; 1978. Language behavior; organizational communication.

Potter, David J., Professor, *Emeritus*, Ph.D., Columbia University, 1943; 1960.

Sanders, Keith R., Professor, Ph.D., University of Pittsburgh, 1968; 1967. Political communication, interpersonal and small group communication.

Talley, C. Horton, Professor, *Emeritus*, Ph.D., State University of Iowa, 1936; 1948.

Technical Careers, School of

Alden, Elaine, Associate Professor, Ph.D., University of Pittsburgh, 1971; 1975.

Ashworth, Edwin Robert, Assistant Professor, Ph.D., Southern Illinois University, 1972; 1963.

Caldwell, Paul, Associate Professor, M.S.Ed., Southern Illinois University, 1965; 1960.

Dallman, Murnice H., Associate Professor, M.S.Ed., Southern Illinois University, 1960; 1954.

Greathouse, Lillian, Assistant Professor, Ph.D., Southern Illinois University, 1981; 1968.

Hertz, Donald G., Associate Professor, Ed.M., University of Oklahoma, 1953; 1965.

Johnston, Chester E., Associate Professor, A.M., George Peabody College of Teachers, 1953; 1955.

Lampman, Duncan L., Associate Professor, M.S.Ed., Southern Illinois University, 1956; 1954.

Little, Harold, Associate Professor, *Emeritus*, B.S., Pennsylvania State University, 1951; 1964.

McDougle, Larry, Associate Professor, Ph.D., University of Toledo, 1971; 1979.

Miller, Harry, Professor, Ed.D., University of Nebraska, 1970; 1970.

Robb, James, Associate Professor, Ph.D., Southern Illinois University, 1974; 1962.

Rutledge, Clifton D., Associate Professor, M.Arch., Kansas State University, 1968; 1965.
Soderstrom, Harry, Professor, M.S., Bradley University, 1952; 1962.

Traylor, George Lelon, Associate Professor, M.S.Ed., Southern Illinois University, 1965; 1957.

Trotter, Gene, Associate Professor, B.S., North Dakota State University, 1939; 1973.

Vaughn, Frank Eugene, Associate Professor, M.S.Ed., Southern Illinois University, 1961; 1952.

Technology

College of Engineering and Technology

Andrews, Paul, Associate Professor, Ph.D., Southern Illinois University, 1979; 1971.

Barbay, Joseph E., Jr., Associate Professor, Ph.D., University of Missouri, Columbia, 1971; 1970.

Besterfield, Dale H., Professor and *Acting Chairman*, Ph.D., Southern Illinois University, 1971; 1962.

Johnson, Marvin E., Professor, Ed.D., University of Missouri, Columbia, 1959; 1948.

Klopp, Mark E., Associate Professor, M.S.Ed., Pennsylvania State University, 1954; 1956.

Moeller, C. Merrill, Associate Professor, M.S.C.E., Kansas State University, 1951; 1956.

Rogers, Lee, Associate Professor, Ph.D., Southern Illinois University, 1975; 1967.

Theater

College of Communications and Fine Arts

McLeod, Archibald, Professor, *Emeritus*, Ph.D., Cornell University, 1943; 1947. History and criticism.

Moe, Christian H., Professor, Ph.D., Cornell University, 1958; 1958. Playwriting, theater history.

Payne, Darwin R., Professor and *Chairperson*, M.F.A., Southern Illinois University, 1955; 1963. Scene design.

Reynolds, Howard, Adjunct Assistant Professor, M.A., Smith College, 1969; 1975.

Stewart-Harrison, Eelin, Associate Professor, Ph.D., Louisiana State University, 1968; 1961. Costume design, acting.

Straumanis, Alfreds, Associate Professor, Ph.D., Carnegie-Mellon University, 1966; 1973. Baltic theater, theory, and criticism.

Thermal and Environmental Engineering

College of Engineering and Technology

Chen, Juh W., Professor and *Chairperson*, Ph.D., University of Illinois, 1959; 1965. Process analysis and kinetics, sonocatalysis.

Cook, Echol E., Professor, Ph.D., Oklahoma State University, 1970; 1971. Biological waste treatment, fixed bed reactors, solid waste disposal.

Helmer, Wayne A., Assistant Professor, Ph.D., Purdue University, 1974; 1974. Heat transfer in two-phase flow.

Hesketh, Howard E., Professor, Ph.D., Pennsylvania State University, 1968; 1968. Air pollution control, atomization, sorption processes, fluidization engineering, control of sulfur dioxide and particulates, evaluation and control of odors.

Jefferson, Thomas B., Professor, Ph.D., Purdue University, 1955; 1969. Thermodynamics, heat transfer.

Kent, Albert C., Associate Professor, Ph.D., Kansas State University, 1968; 1966. Heat transfer, thermal environmental control.

Muchmore, Charles B., Associate Professor, Ph.D., Southern Illinois University, 1970; 1966. Biological, physical and chemical aspects of water quality control, mass transfer operations.

O'Brien, William S., Assistant Professor, Ph.D., West Virginia University, 1972; 1973. Acid mine waste treatment, coal conversion processes.

Petrie, Thomas W., Associate Professor, Ph.D., University of Minnesota, 1969; 1972. Thermodynamics, heat transfer, advanced energy, conversion, coal desulfurization.

Rajan, Suryanarayaniah, Assistant Professor, Ph.D., University of Illinois, 1970; 1977. Combustion and energy utilization.

Sinha, Atmesh K., Associate Professor, University of Sheffield, England, 1963; 1975. Mining systems, mine environment control.

Stoever, Herman J., Professor, *Emeritus*, University of Illinois, 1934; 1960.

Tempelmeyer, Kenneth E., Professor, Ph.D., University of Tennessee, 1969; 1979.

Vocational Education Studies

College of Education

Anderson, Marcia, Associate Professor, Ph.D., Southern Illinois University, 1975; 1970. Business and office occupations education, teaching methodology, curriculum development, philosophy of vocational education.

Bailey, Larry J., Professor, Ed.D., University of Illinois, 1968; 1969. Career education, career development theory and research, curriculum development, research design, evaluation.

Bittle, R. E., Professor, Ed.D., University of Florida, 1956; 1969. Community college and military occupational education, management and supervision, occupational internship, work experience analysis, evaluation, non-traditional education, campus-without walls, university-industry interface.

Bortz, Richard F., Associate Professor, Ph.D., University of Minnesota, 1967; 1977. Occupational curriculum specialist, occupational curriculum design, health occupation curriculum.

Buila, Theodore, Associate Professor, Ph.D., Cornell University, 1968; 1968. Rural development, agricultural occupations, community educational resources.

Carter, Rose Mary, Assistant Professor, Ph.D., Purdue University, 1970; 1970. Special needs learners, curriculum development, supervision, methods of instruction, experience based career education.

Erickson, John H., Professor, *Emeritus*, Ed.D., Pennsylvania State University, 1953; 1955. Research procedures, graduate programs, teaching internships, curriculum development.

Fults, Anna Carol, Professor, Ph.D., Ohio State University, 1946; 1952. Evaluation, curriculum with emphasis on philosophy, teacher education, consumer-homemaking, H.E.R.O., Coop.

Gallington, Ralph O., Professor, *Emeritus*, Ed.D., George Washington University, 1947; 1955.

Gooch, Bill G., Associate Professor and *Chairperson*, Ed.D., University of Tennessee, 1973; 1973. Administration and supervision, cooperative vocational education, principles and philosophies of vocational education.

Huck, John F., Associate Professor, Ed.D., University of Illinois 1973; 1970. Educational internships, vocational psychology, manpower, research, adult vocational education.

Jenkins, James, Professor, Ed.D., Pennsylvania State University, 1955; 1956. Industrial arts, elementary and special education crafts, curriculum development.

Keenan, Dorothy, Professor, Ed.D., University of Illinois, 1962; 1961. Curriculum development, methods, competency based or mastery learning, consumer homemaking.

Legacy, James, Associate Professor, Ph.D., Cornell University, 1976; 1977. Agricultural education, pragmatic research design, curriculum development, adult and extension education.

Luft, Roger L., Associate Professor, Ed.D., Oregon State University, 1977; 1978.

Rahe, Harves C., Professor, *Emeritus*, Ed.D., Indiana University, 1950; 1950.

Ramp, Wayne S., Professor, Ed.D., Bradley University, 1956; 1957. Supervision, philosophy and principles of occupational education, placement, vocational guidance, leadership development, competency-based education.

Reneau, Fred W., Assistant Professor, Ed. D., Virginia Tech, 1979; 1979. Agriculture education, adult education, curriculum development, teaching methods.

Rosenbarger, Maxine, Associate Professor, Ph.D., Southern Illinois University, 1970; 1973. Health occupations education, manpower research and planning, teaching methodology.

Stadt, Ronald W., Professor, Ed.D., University of Illinois, 1962; 1967. Evaluation, personal service and industrial occupations, cooperative education, career education, publication.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967; 1967. Curriculum specialist, agricultural education, cooperative vocational education and adult education.

Sullivan, James A., Professor, Ed.D., West Virginia University, 1967; 1968. Industrial

occupations curriculum development, cooperative education, energy and power systems.

Wood, Eugene S., Professor, *Emeritus*, Ed.D., University of Missouri, 1958; 1949. Agricultural education, post-high school programs in agriculture, teaching methods and curriculum development.

Zoology

College of Science

Anthoney, Terence R., Associate Professor, M.D., University of Chicago, 1968; and Ph.D., University of Chicago, 1975; 1971. Ethology.

Beatty, Joseph A., Associate Professor, Ph.D., Harvard University, 1969; 1965. Invertebrates: arachnida.

Blackwelder, Richard E., Professor, *Emeritus*, Ph.D., Stanford University, 1934; 1958.

Brandon, Ronald A., Professor and *Chairman*, Ph.D., University of Illinois, 1962; 1963. Herpetology: systematics of amphibians.

Burr, Brooks M., Associate Professor, Ph.D., University of Illinois, 1977; 1977. Ichthyology.

Dyer, William G., Professor, Ph.D., Colorado State University, 1965; 1969. Parasitology: helminthology.

Ellinger, Mark S., Associate Professor, Ph.D., University of Minnesota, 1976; 1977. Embryology, developmental biology.

Englert, DuWayne C., Professor, Ph.D., Purdue University, 1964; 1963. Genetics.

Fisher, Harvey I., Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1942; 1955.

Galbreath, Edwin C., Professor, Ph.D., University of Kansas, 1951; 1957. Vertebrate paleontology and morphology.

Garoian, George, Associate Professor, Ph.D., University of Illinois, 1956; 1956. Parasitology, protozoology.

George, William G., Professor, Ph.D., University of Arizona, 1961; 1964. Ornithology.

Gersbacher, Willard, Professor, *Emeritus*, Ph.D., University of Illinois, 1932; 1936.

Heidinger, Roy C., Professor, Ph.D., Southern Illinois University, 1970; 1970. Ecology of fishes.

Joyner, David E., Assistant Professor, Ph.D., University of Nebraska, 1975; 1980. Ecology: waterfowl and wetlands.

King, David G., Assistant Professor, Ph.D., University of California at San Diego, 1975; 1977. Invertebrate neurobiology.

Klimstra, Willard D., Professor, Ph.D., Iowa State University, 1949; 1949. Vertebrate ecology: management, surface mining.

LeFebvre, Eugene A., Associate Professor, Ph.D., University of Minnesota, 1962; 1966. Ecology: physiological and conservation.

Lewis, William M., Professor, Ph.D., Iowa State University, 1949; 1949. Ecology of fishes.

Martan, Jan, Professor, Ph.D., University of Oregon, 1963; 1964. Reproduction: histology, cytochemistry.

McPherson, John E., Jr., Professor, Ph.D.,

Michigan State University, 1968; 1969. Entomology: insect ecology.

Paparo, Anthony A., Associate Professor, Ph.D., Fordham University, 1969; 1973. Neurobiology; electron microscopy.

Petersen, Bruce W., Assistant Professor, Ph.D., University of Colorado, 1968; 1968. Ecology.

Shepherd, Benjamin A., Professor, Ph.D., Kansas State University, 1970; 1969. Reproduction: comparative endocrinology.

Stahl, John B., Associate Professor, Ph.D., Indiana University, 1958; 1966. Limnology.

Stains, Howard J., Professor, Ph.D., University of Kansas, 1955; 1955. Mammalogy: ecology, morphology.

Stein, Hilda, Associate Professor, *Emerita*, M.S., University of Illinois, 1929; 1925.

Waring, George H., Associate Professor, Ph.D., Colorado State University, 1966; 1966. Behavioral ecology and applied ethology.

Woolf, Alan, Associate Professor, Ph.D., Cornell University, 1972; 1979. Wildlife ecology, population dynamics, diseases.

School of Medicine

Carbondale Campus

Banerjee, Chandra M., Professor, M.D., University of Calcutta, 1955, Ph.D., Medical College of Virginia, Richmond, 1967; 1974.

Bemiller, Paraskevi, Associate Professor, Ph.D., Purdue University, 1961; 1972.

Birtch, Alan G., Professor, M.D., Johns Hopkins University, 1958; 1972.

Borkon, Eli, Professor *Emeritus*, M.D., University of Chicago, 1937; 1971.

Brewer, Gregory, Associate Professor, Ph.D., University of California-San Diego, 1972; 1980.

Browning, Ronald A., Associate Professor, Ph.D., University of Illinois Medical Center, 1971; 1973.

Caspary, Donald M., Associate Professor, Ph.D., New York University, 1971; 1972.

Cline, William H., Professor, Ph.D., West Virginia University, 1965; 1973.

Coulson, Richard L., Associate Professor, Ph.D., University of Toronto, 1971; 1978.

Davidson, Glen W., Professor, Ph.D., Claremont Graduate School, 1964; 1972.

Dayringer, Richard, Associate Professor, Th.D., New Orleans Baptist Theological Seminary, 1968; 1974.

Dodd, Robert B., Professor, M.D., University of Nebraska, 1945; 1969.

Ellert, Martha S., Associate Professor, Ph.D., University of Miami, 1967; 1975.

Estavillo, Jaime A., Associate Professor, Ph.D., University of California, 1970; 1975.

Faingold, Carl L., Associate Professor, Ph.D., Northwestern University, 1970; 1972.

Falvo, Richard E., Associate Professor, Ph.D., University of Wyoming, 1970; 1973.

Folse, John R., Professor, M.D., Johns Hopkins University, 1958; 1971.

Garfunkel, Joseph M., Professor, M.D., Temple University, 1948; 1972.

Graham, James, Professor, M.D., University of Illinois, 1931; 1971.

Hawe, Anthony, Associate Professor, M.B., Ch.B., Liverpool University, 1959; 1971.

Herrick, Robert, Professor, M.D., Columbia University, 1956; 1974.

Hunter, William S., Associate Professor, Ph.D., Michigan State University, 1971; 1975.

Jackson, Robert L., Associate Professor, Ph.D., East Texas State University, 1967; 1973.

Jackson, Robert W., Professor, Ph.D., Purdue University, 1963; 1974.

Jarett, Irwin M., Visiting Professor, Ph.D., Louisiana State University; 1964; 1971.

Johnson, Robert Peter, Professor, M.D., University of Illinois, 1950; 1972.

Juniper, Kerriison, Professor, M.D., Emory University, 1949; 1973.

Kabisch, William T., Professor, Ph.D., University of Chicago, 1954; 1970.

Kaplan, Harold M., Visiting Professor, *Emeritus*, Ph.D., Harvard University, 1933; 1974.

Lascari, Andres, Professor, M.D., University of Buffalo, 1960; 1972.

Lehr, Robert P., Jr., Associate Professor, Ph.D., Baylor University, 1974; 1973.

Maroun, Leonard E., Associate Professor, Ph.D., Catholic University, 1970; 1972.

Martz, William W., Associate Professor, Ph.D., Loyola University, 1971; 1973.

Masters, Thomas D., Clinical Professor, M.D., Rush Medical School, 1930; 1971.

McConnachie, Peter, Adjunct Associate Professor, Ph.D., University of Alberta, 1970; 1975.

Metzmaker, Charles O., Professor, M.D., University of Illinois, 1947; 1971.

Moy, Richard H., Professor, *Dean and Provost*, M.D., University of Chicago, 1957; 1970.

Myers, J. Hurley, Associate Professor, Ph.D., University of Tennessee Graduate School Medical Science, 1969; 1971.

Myers, Walter, Professor, Ph.D., University of Wisconsin, 1962; 1973.

Nequin, Lynn G., Associate Professor, Ph.D., University of Illinois College of Medicine, 1970; 1973.

Norris, Albert S., Professor, M.D., University of Western Ontario, 1951; 1972.

Patton, Robert J., Clinical Professor, M.D., University of Michigan, 1934; 1971.

Pearson, Emmet F., Clinical Professor, *Emeritus*, M.D., Washington University, 1930; 1971.

Peterson, Rudolph N., Professor, Ph.D., University of Florida, 1965; 1976.

Rabinovich, Sergio, Professor, M.D., University of San Marcos, 1953; 1973.

Roddick, John William, Professor, M.D., Northwestern University, 1950; 1972.

Rowan, Dighton, Professor, Ph.D., Stanford University, 1954; 1973.

Sollberger, Arne, Professor, M.D., Caroline Institute, Sweden, 1957; 1972.

Somani, Satu, Associate Professor, Ph.D., Liverpool University, 1969; 1974.

Strano, Alfonso J., Clinical Professor, M.D., University of Texas, 1960; 1974.

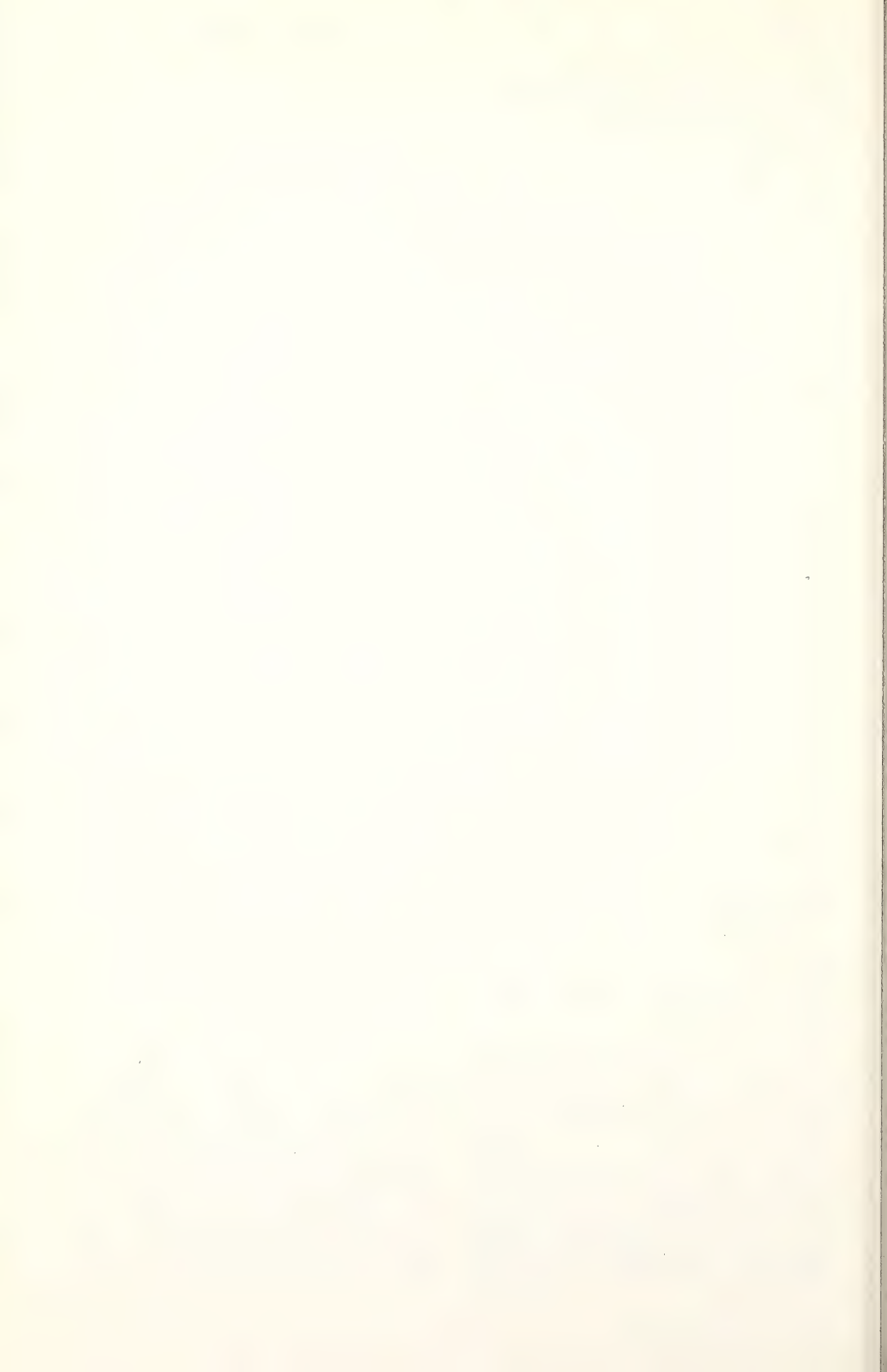
Travis, Terry, Professor, M.D., Kansas University, 1964; 1972.

Troy, Bart, Clinical Associate Professor, M.D., Columbia College, 1961; 1973.

Wade, David, Associate Professor, Ph.D., Cambridge University, 1967; 1974.

Yau, William, Associate Professor, Ph.D., Medical College of Virginia, 1971; 1973.

Zook, Elvin G., Professor, M.D., Indiana University, 1963; 1973.



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Objectives of Southern Illinois University

TO EXALT BEAUTY

*In God,
in nature, and
in art;
Teaching how to love the best
but to keep the human touch;*

TO ADVANCE LEARNING

*In all lines of truth
wherever they may lead,
Showing how to think,
rather than what to think,
Assisting the powers
of the mind
In their self-development;*

TO FORWARD IDEAS AND IDEALS

*In our democracy,
Inspiring respect for others
as for ourselves,
Ever promoting freedom
with responsibility;*

TO BECOME A CENTER OF ORDER AND LIGHT

*That knowledge may lead
to understanding
And understanding
to wisdom.*



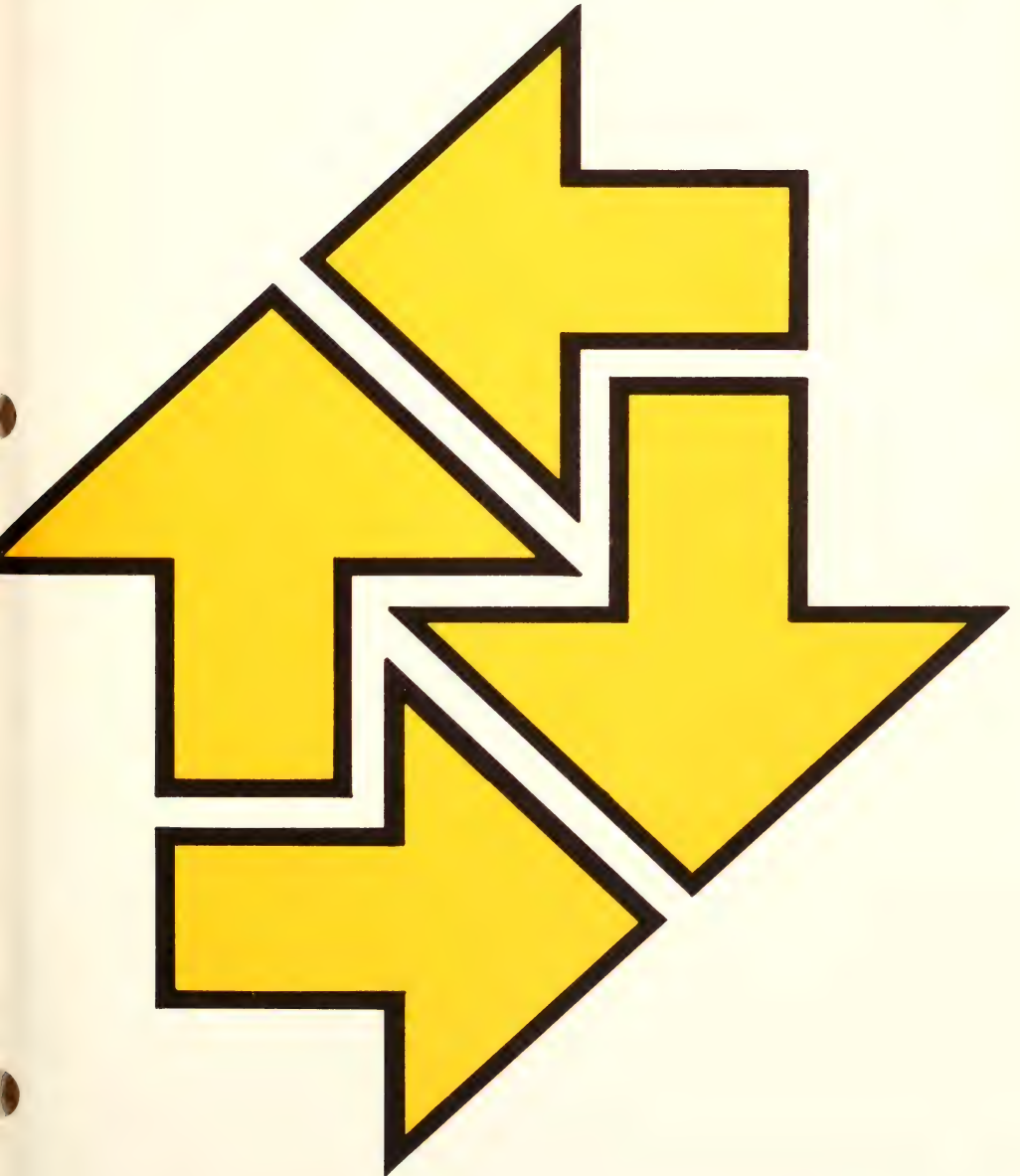
SOUTHERN ILLINOIS UNIVERSITY FOUNDATION

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Southern Illinois University
at Carbondale

Bulletin

1983-1984 *Counselor's Advisement Catalog*





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Illinois
University
at Carbondale
Bulletin

1983-1984
Counselor's Advisement
Catalog

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Southern Illinois University at Carbondale is an Equal Opportunity/Affirmative Action institution in accordance with Civil Rights legislation and does not discriminate on the basis of race, religion, national origin, sex, age handicap or other factors prohibited by law in any of its educational programs, activities, admissions or employment practices. Concerns regarding this policy should be referred to the Affirmative Action Office, Southern Illinois University at Carbondale, Anthony Hall, Room 104, telephone 536-6618.

SUGGESTIONS FOR USE
COUNSELOR'S ADVISEMENT CATALOG

Usually, this space is reserved for a statement of the editor's intentions for use of the Counselor's Advisement Catalog. For a change, I thought you'd like to hear how other counseling professionals use this book.

Most counselors, without question, do use the Counselor's Advisement Catalog to help prospective students interested in SIUC gain information regarding our programs, policies and procedures. In addition, the following suggestions have been offered:

- 1) to use the Counselor's Advisement Catalog in a career decision making class or seminar. The "Representative First Job Titles" for each major illustrate the practical applications of the degree, while the recommended courses illustrate what's involved in the major, as well as suggest recommended preparation;
- 2) to advise students intending to attend a community college or other institution prior to transferring to SIUC, as to the preferred preparation;
- 3) to photocopy a page or two for an individual student's use (fine by us!);
- 4) to aid in high school course registration, as illustration of what particular programs we'll expect beginning freshmen to take their first semester.

As always we remind you that

Small Changes Are The Most Important. We've made every attempt to present the most current information on policies, procedures, and course requirements. For this reason, PLEASE DISCARD ALL PREVIOUS ISSUES of the Counselors Advisement Catalog.

We would like to supply each counselor on your staff with a personal copy of the 1983-84 Counselor's Advisement Catalog. Just let us know how many additional copies are required, by contacting School/College Relations Division, Office of Admissions and Records, SIUC, Carbondale, Illinois 62901.

I am already mulling over ideas for the 1984-85 edition, and would welcome any suggestions or comments from you for adapting it to your needs.

Catherine Foster Walsh, Editor

OFFICE OF ADMISSIONS AND RECORDS
SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE
CARBONDALE, ILLINOIS 62901

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UNIVERSITY CALENDAR

Fall Semester 1982

Semester Classes Begin	Monday, August 23, 8:00 a.m.
Labor Day Holiday	Monday, September 6
Thanksgiving Vacation	Saturday, 12:00 noon-Monday, 8:00 a.m., November 20-29
Final Examinations	Monday-Friday, December 13-17

Spring Semester 1983

Semester Classes Begin	Monday, January 17, 8:00 a.m.
Lincoln's Birthday Holiday	Friday, February 11
Spring Vacation	Saturday, 12:00 noon-Monday, 8:00 a.m., March 12-21
Final Examinations	Monday-Friday, May 9-13
Commencement	Saturday, May 14

Summer Session 1983--Proposed

Session Classes Begin	Monday, June 13, 7:30 a.m.
Independence Day Holiday	Monday, July 4
Final Examinations	Thursday and Friday, August 4-5
Commencement	Saturday, August 6

Fall Semester 1983--Proposed

Semester Classes Begin	Monday, August 22, 8:00 a.m.
Labor Day Holiday	Monday, September 5
Thanksgiving Vacation	Saturday, 12:00 noon--Monday, 8:00 a.m., November 19-28
Final Examinations	Monday-Friday, December 12-16

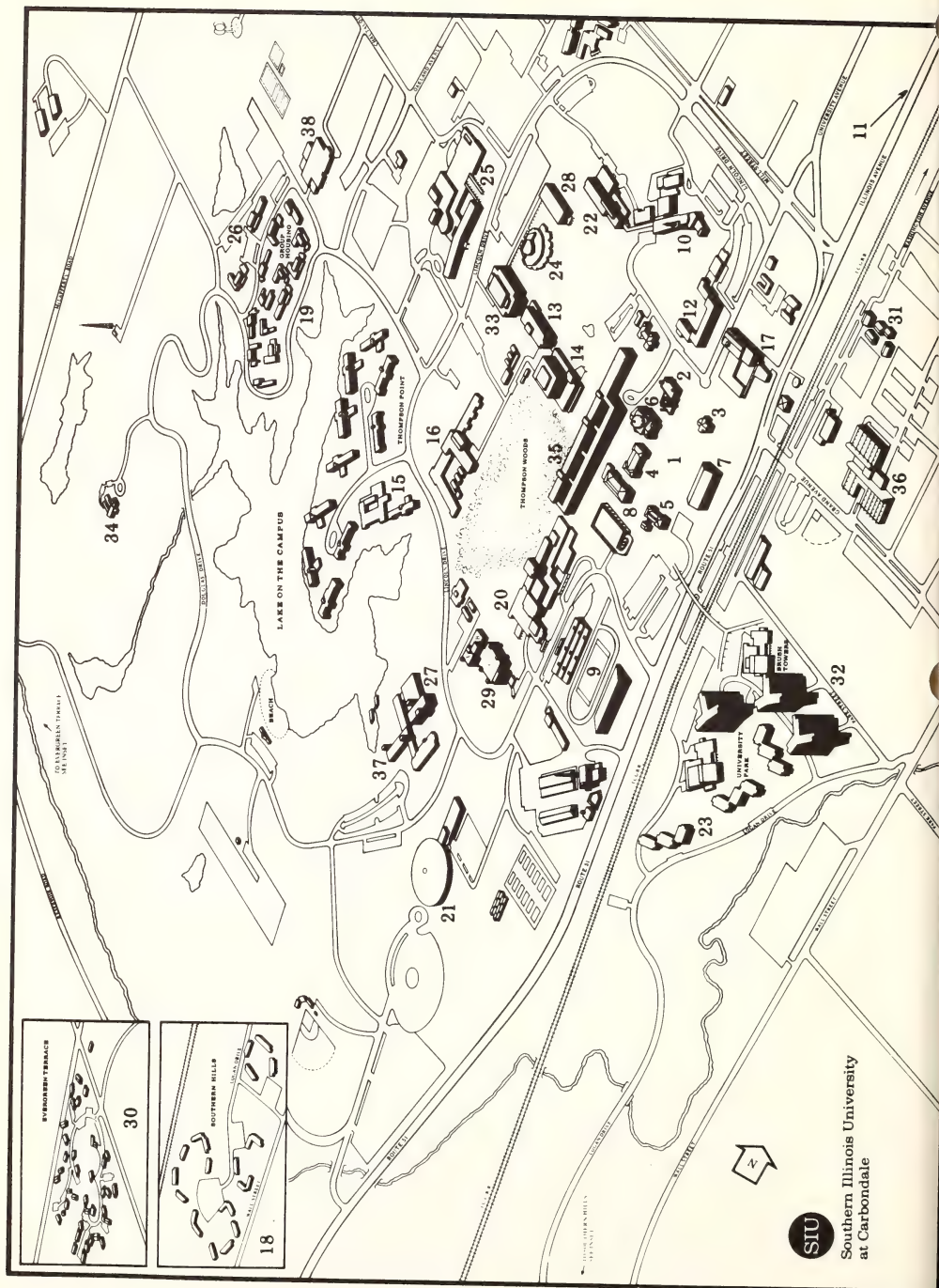
Spring Semester 1984--Proposed

Semester Classes Begin	Monday, January 16, 8:00 a.m.
Lincoln's Birthday Holiday	Friday, February 13
Spring Vacation	Saturday, 12:00 noon-Monday, 8:00 a.m., March 10-19
Final Examinations	Monday-Friday, May 7-11
Commencement	Saturday, May 12

Admissions' Open Houses

SIUC encourages individual visits to the campus. We also offer the following guest days for Saturday travelers, group visits, and all other interested visitors.

November 6, 1982	High School Open House
February 5, 1983	Transfer Open House
March 26, 1983	Open House
July 22, 1983	Senior Day (for prospective 1984 students)



Southern Illinois University
at Carbondale

LEGEND

Old Campus

1. Old Main Site
2. Altgeld Hall (1896)
3. Wheeler Hall (1904)
4. Allyn Building (1908)
5. Anthony Hall (1913)
6. Shryock Auditorium (1918)
7. Davies Gymnasium (1925)
8. Parkinson Laboratory (1928)
9. McAndrew Stadium (1938)

New Campus

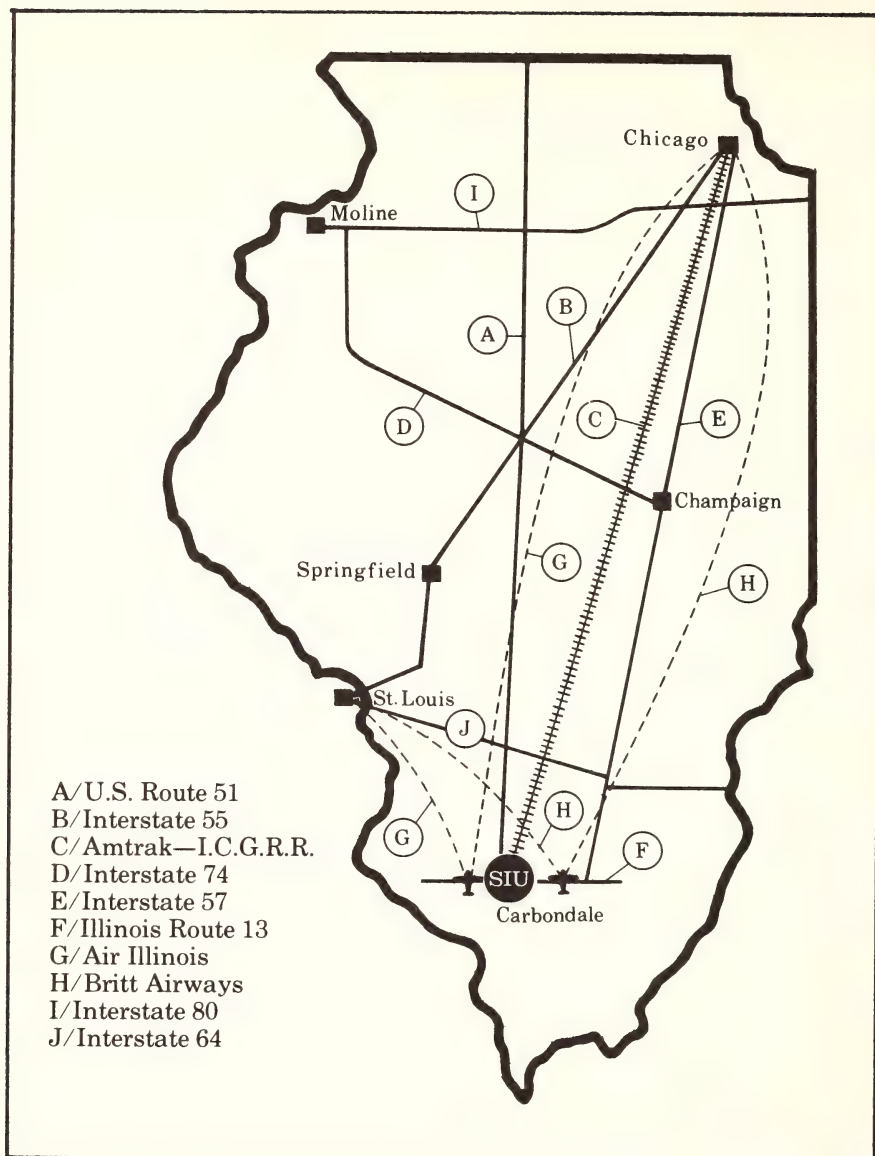
10. Pulliam Hall (1951)
11. School of Technical Careers (1951)
12. Woody Hall (1953)
13. Lindgren Hall (1953)
14. Morris Library (1956)
15. Thompson Point Residence Halls (1957)
16. Agriculture Building (1957)
17. Quigley Hall (1959)
18. Southern Hills Family Housing (1960)
19. Small Group Housing (1960)
20. Student Center (1961)
21. SIU Arena (1964)
22. Wham Education Building (1964)
23. University Park Residence Halls (1965)
24. Lawson Hall (1965)
25. Communications Building (1966)
26. Health Service (1966)
27. Technology Buildings (1966)
28. General Classroom Building (1967)
29. James W. Neckers Building (1968)
30. Evergreen Terrace Family Housing (1968)
31. Washington Square (1967)
32. Brush Towers Residence Halls (1968)
33. Life Science II (1971)
34. President's Home (1971)
35. Faner Building (1973)
36. Student Recreation Center (1977)
37. School of Technical Careers Building (1978)
38. Hiram H. Lesar Law Building (1981)

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CAMPUS

The original eight-building campus with its Gothic architectural tradition is now completely surrounded by a sprawling modern 866-acre campus with a maze of paths, impressive buildings, and attractive residence halls. Even though the original campus still serves as a focal point of study and university tradition, the prevailing design of the 430-building campus now is contemporary. Facilities vary in style, size, and purpose from a circular 10,000-seat arena, to an eight-sided multimedia instruction center, 17-story high-rise residence halls, and a permanent beach house on the 40-acre spring-fed campus lake.

Being teaching and research oriented, the University provides a balance of laboratories and classrooms which serve as satellites to the impressive 7-story Morris Library containing over 1.6 million volumes and subscribing to over 11,000 current periodicals.

Additional facilities include the School of Technical Careers' Carterville campus some ten miles east, the Southern Illinois Airport three miles west, laboratories at Little Grassy Lake, and University Farms.

UNIVERSITY DIRECTORY

Listed below are the various offices, schools and colleges which are available to aid counselors, prospective students, and parents in answering questions which may not be within the scope of the various University publications. Please feel free to direct inquiries to the appropriate areas.

The general University telephone number is (618) 453-2121. The mailing address is Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

OFFICES

SIUC (University Switchboard)	(618) 453-2121
Admissions and Records (applications, registration) (Illinois residents call toll free 800-642-3531)	(618) 453-4381
Aerospace Studies (AF-ROTC)	(618) 453-2481
Airport, Southern Illinois	(618) 529-2681
Army Military Science (Army ROTC)	(618) 453-5786
Athletics, Intercollegiate for Men	(618) 453-5311
Athletics, Intercollegiate for Women	(618) 536-5566
Athletics, Tickets	(618) 453-5319
Bursar (payment of fees)	(618) 453-2221
Central Ticket Office	(618) 536-3351
Continuing Education	(618) 536-7751
Counseling Center	(618) 453-5371
Health Service	(618) 453-3311
Housing Business Services (on-campus housing)	(618) 453-2301
Housing Information Services (offcampus housing)	(618) 453-2301
International Education	(618) 453-5774
Parking Division	(618) 453-5369
School/College Relations	(618) 453-4381
Specialized Student Services (Handicapped)	(618) 453-5738
Student Development	(618) 453-5714
Student Life	(618) 536-2338
Student Services	(618) 453-2374
Student Work and Financial Assistance	(618) 453-4334
Testing Center (CLEP, Placement/Proficiency, ACT Residual)	(618) 536-3303
University Graphics and Publications	(618) 536-3325
University Honors	(618) 453-2824
University Ombudsman	(618) 453-2411

SCHOOLS AND COLLEGES

Agriculture, School of (Agriculture Building)	(618) 453-2469
Business and Administration, College of (General Classroom Building)	(618) 453-3328
Communications and Fine Arts, College of (Communications Building)	(618) 453-4308
Education, College of (Wham Education Building)	(618) 453-2415
Engineering and Technology, College of (Technology Building)	(618) 453-4321
General Academic Programs (Woody Hall)	(618) 536-5506
Graduate Studies and Research (Woody Hall)	(618) 536-7791
Human Resources, College of	(618) 453-2251
Law, School of	(618) 536-7711
Liberal Arts, College of (General Classroom Building)	(618) 453-2466
Medicine, School of	(618) 536-5511
Science, College of (Neckers Building)	(618) 536-6666
School of Technical Careers	(618) 536-6682

GENERAL INFORMATION

THE SOUTHERN ILLINOIS UNIVERSITY SYSTEM

The Southern Illinois University System is a senior, public university system comprised of two diverse institutions, Southern Illinois University at Carbondale and Southern Illinois University at Edwardsville, serving approximately 33,000 students. One of the nation's largest, The Southern Illinois University System had its beginnings in Carbondale and was chartered in 1869 as Southern Illinois Normal University. In 1949 Southern Illinois University began offering off-campus academic courses in the Metropolitan East St. Louis area, and this initiative led to the eventual development of a separate, distinctive institution in Edwardsville.

The mission and scope of The Southern Illinois University System is highly complex and emphasizes a commitment to quality education. As The Southern Illinois University System has grown and flourished, its constituent Universities have developed programs of instruction, research, and public service which have attracted and served students, faculty, and staff not only from the region but from throughout the State of Illinois and the nation, and from overseas as well.

The Universities within The Southern Illinois University System offer a broad range of academic programs at the associate, baccalaureate, master's, doctoral, and professional degree levels. In addition to the many undergraduate degree programs offered, the constituent Universities support over sixty academic programs which lead to the master's degree, and twenty-two programs which lead to the doctorate. The professional schools are designed to provide quality health and legal personnel and services to the people of the State of Illinois. Southern Illinois University at Edwardsville operates a School of Nursing in Edwardsville and a School of Dental Medicine in Alton, and Southern Illinois University at Carbondale has a School of Law in Carbondale and a School of Medicine headquartered in Springfield. Of the 33,000 students currently enrolled, more than 6,000 are enrolled in graduate and professional programs.

The instruction, research, and service missions of the two constituent Universities reflect the needs of the geographic areas in which they are located. The System is also committed to serving Statewide, national, and international needs. This commitment is reflected throughout the State and the nation. Its presence is also felt in countries other than the United States through research and training exchanges and through worldwide student exchange programs.

The Southern Illinois University System is governed by a nine-member Board of Trustees which sets policy that enables the institutions to carry out established missions and goals. The Chancellor of The Southern Illinois University System is the chief executive officer of the System and is the primary link between the Universities and the Board of Trustees. The University Presidents report directly to the Chancellor and are responsible for the internal operations of the respective institutions.

ENVIRONMENT

Community: Carbondale, Illinois (pop. 26,900)

Location in State: Southern Illinois (Jackson County)

Miles from: St. Louis, 110; Chicago, 330; New York, 960; San Francisco, 2,140.

Terrain: Slightly rolling (elevation 400-500 feet).

Climate: Pleasant and mild year-round temperature, mean annual temperature 57.8 degrees.

Area: Historical "Little Egypt," year-round outdoor recreation, four scenic large lakes, national forest and game refuge.

Transportation: Major train, plane, and bus routes: Amtrak Rail System; Britt Airways and Air Illinois; Gulf Transport bus line; highway routes Interstate 57, US 51, Illinois 13.

UNIVERSITY

Name: Southern Illinois University at Carbondale

Founded: 1869

President: Albert Somit

Campus Location: Southwest corner of the community

University telephone number: 618-453-2121

Type: Public state university of the Southern Illinois University System

Student Body: Co-ed

Curriculum: Undergraduate, graduate, and professional

Calendar: Early semester (Fall and Spring), Summer session

Campuses: Carbondale; School of Technical Careers' Carterville Campus; Southern Illinois

Airport; outdoor laboratories; University farms

Acreage: 6,926; on-campus 974 acres

Campus Buildings: 375

Colors: Maroon and white

Mascot: Saluki (Egyptian hunting dog)

STUDENT DATA

Enrollment, Fall 1981: 23,991

Undergraduate, 20,261; graduate, 3,228; Professional 502

Men, 15,082; Women, 8,909

Residency: Illinois 19,712 (82%); out-of-state 2,722 (11%); 95 other countries, 1,557 (7%)

PERSONNEL, 1981

Percentage full-time faculty with doctorate: 67%

Undergraduate students/faculty who teach at undergraduate level ratio: 14:1

DEGREES

Undergraduate: Associate: A.A., A.A.S.; Baccalaureate: B.A., B.S., B. Mus.

Graduate: M.Acc., M.A., M.B.A., M.F.A., M. Mus., M. Mus. Ed., M.P.A., M.S.,

M.S. Ed.; Specialist Degree (6 yr.); Ph.D., Rh.D., D.B.A., M.D., J.D.

ACCREDITATIONS AND AFFILIATIONS

North Central Association of Colleges and Secondary Schools

National Council for Accreditation of Teacher Education

Accreditation Board for Engineering and Technology, Inc.

Accrediting Council of the American Assembly of Collegiate Schools of Business (undergraduate and master's level programs)

American Association for Accreditation of Laboratory Animal Care

American Association of Museums (University Museum and Art Galleries)

American Bar Association and Association of American Law Schools

Commission of Schools of American Board of Funeral Service Education (Mortuary Science program)

American Chemical Society

American Council on Education for Journalism

Commission of Accreditation of Dental and Dental Auxiliary Educational Programs of the American Dental Association (Dental Hygiene and Dental Laboratory Technology programs)

Commission on Accreditation of Rehabilitation Facilities (Vocational development program)

American Dietetic Association (programs meet standards for traditional baccalaureate programs in field of nutrition or dietetics)

American Institute of Architects (Architectural Technology program)

American Medical Association and American Association of Medical Colleges

American Physical Therapy Association (Physical Therapist Assistant program)

American Psychological Association (Counseling psychology and clinical training program)

American Speech-Language-Hearing Association by the Council on Professional Standards in Speech-Language Pathology and Audiology

Council on Rehabilitation Education (Rehabilitation Counseling program)

Council on Social Work Education

National Association of Schools of Art

Federal Aviation Administration (Aviation Technology program)

Foundation for Interior Design Education Research

Illinois Office of Education

Superintendent of Education

State Teacher Certification Board

State Board of Education

Vocational Home Economics Programs

State Plan for Administration of Vocational and Technical Education in Illinois

Illinois Department of Registration and Education (Associate Degree Nursing program)

National Association of Industrial Technology (B.S. program in Industrial Technology)

National Association of Schools of Music

Radiography Program - STC 3 year Provisional Accreditation as recommended by the Joint

Review Committee on Education in Radiologic Technology (JRGERT), sponsored by the

American College of Radiology and the American Society of Radiologic Technologists

Society of American Foresters

National Shorthand Reporters Association (court reporter training program)

Association of University Programs in Health Administration (Health Care Services option of B.S. degree in Technical Careers)

UNDERGRADUATE CURRICULA AND COURSES

Accounting	Food and Nutrition
Administration of Justice	Forestry
Administrative Sciences	French
African Studies ¹	Geography
Agribusiness Economics	Geology
Agricultural Education	German
Agricultural Education & Mechanization	Greek ^{1,3}
Agriculture, General	Health Education
Allied Health Career Specialties*	History
Animal Industries	Home Economics Education
Anthropology	Industrial Technology
Aquatics ^{1,5}	Interior Design
Architectural Technology*	Japanese ^{1,3}
Art	Journalism
Asian Studies ¹	Language Arts (English and Reading)
Athletic Training ^{1,5}	Latin ^{1,3}
Automotive Technology*	Latin American Studies
Aviation Technology*	Law Enforcement
Avionics Technology*	Linguistics
Biological Sciences	Marketing
Black American Studies ¹	Mathematics
Botany	Microbiology
Business and Administration	Mortuary Science and Funeral Service*
Business Economics	Museum Studies ¹
Business Education	Music
Chemistry	Nursing*
Child and Family	Occupational Education
Chinese ^{1,3}	Paralegal Studies
Cinema and Photography	Philosophy
Classical Civilization ^{1,3}	Photographic Production Technology*
Classics	Physical Education
Clothing and Textiles	Physical Therapist Assistant*
Coaching ^{1,5}	Physics
Commercial Graphics - Design*	Physiology
Communication Disorders and Sciences	Plant and Soil Science
Community Development ¹	Political Science
Comparative Literature ¹	Psychology
Computer Science	Radio-Television
Construction Technology - Building*	Radiologic Technology*
Construction Technology - Civil*	Recreation
Consumer Studies ^{1,4}	Religious Studies
Correctional Services*	Respiratory Therapy Technology*
Dance ^{1,5}	Russian ³
Dental Hygiene*	Secretarial and Office Specialties*
Dental Laboratory Technology*	Social Studies
Design	Social Welfare
Early Childhood Education	Sociology
Earth Science	Spanish ³
East Asian Civilizations ^{1,3}	Special Major
Economics	Special Education
Educational Media ¹	Speech Communication
Electronic Data Processing*	Technical Careers
Electronics Technology*	Theater
Elementary Education	Tool and Manufacturing Technology*
Engineering	Uncommon Languages ^{1,2}
Engineering Technology	University Studies
English	Women's Studies ¹
Family Economics and Management	Zoology
Finance	

Pre-Professional Programs⁶

Pre-Dentistry	Pre-Pharmacy
Pre-Law	Pre-Physical Therapy
Pre-Medicine	Pre-Podiatry
Pre-Nursing	Pre-Theology
Pre-Osteopathy	Pre-Veterinary Science
Pre-Optometry	

¹Minor only.

²Described under Linguistics.

³Described under Foreign Languages.

⁴Described under Family Economics and Management.

⁵Described under Physical Education.

⁶Preparatory to applying to professional schools. These are non-degree programs.

*Associate degree curriculum.

APPLICATION REQUEST: ADMISSION PROCEDURES

To request application materials for admission, write to the:

Office of Admissions and Records
Southern Illinois University at Carbondale
Carbondale, Illinois 62901

or call toll free (Illinois residents) 800-642-3531. Direct, call (618) 453-4381.

Counselors may request application packets in small quantities. Rolling admissions process:
NO DEADLINE. APPLICATION FEE: NONE.

ACT/APP

Beginning freshmen can simplify their admission to SIUC by indicating at the time they write the American College Test (ACT) that their test scores should be sent to Southern Illinois University at Carbondale (college code 1144). Students who take the ACT during one of five national test dates and send their scores to us do not have to initiate the application for admission. Once we are in receipt of a student's test scores, we will contact that student automatically. Students who score 18 or higher on the ACT will receive a preprinted application called ACT/APP. To finalize admission, the ACT/APP must be returned to us along with an official copy of the student's transcript.

Students who have sent ACT scores of less than 18 but greater than 14 will be sent a special application for admission. This document must be completed and returned to the Admissions Office with a copy of the student's transcript. Students with test scores less than 15 must submit a regular application for admission.

All students who do not send ACT scores as a result of the national test dates must apply through the traditional application for admission process (details described below).

REQUIRED MATERIALS AND PROCEDURES

HIGH SCHOOL APPLICANTS

Freshman may be considered for admission any time following their sixth semester in high school. Prospective high school students should submit:

1. Completed and signed application forms or ACT/APP.
2. Two copies of the high school transcript signed with school seal, class rank, and if available, ACT scores.
3. Official ACT scores (from Iowa City).

G.E.D. APPLICANTS

Eligible G.E.D. applicants will be considered for admission upon submission of the following materials.

1. Completed and signed application forms.
2. High school transcript.
3. Official G.E.D. results.
4. Official ACT scores (required of students less than 21 years of age).

NOTE: Students who did not request the results of the ACT examination be sent to SIUC (code 1144) at the time they registered for the exam must request that supplemental scores be sent to SIUC by contacting ACT, P.O. Box 451, Iowa City, Iowa 52240.

TRANSFER STUDENTS

Transfer students may be considered for admission as early as one year in advance of their intended enrollment at SIUC or as late as the beginning of each semester. Transfer students who will have at least 26 semester hours or 39 quarter hours prior to entering SIUC will be considered for admission upon submission of the following materials:

1. Completed and signed application forms.
2. Official transcripts from each institution attended after high school.
3. Work in progress form.

Transfer students who will have less than 26 semester or 39 quarter hours prior to entering SIUC will be considered for admission by providing:

1. Completed and signed application forms.
2. Official transcript from each institution attended after high school.
3. Work in progress form.
4. High school transcript (2 copies).
5. Official ACT scores.

All students transferring from a non-regionally accredited institution must also submit a high school record and ACT scores regardless of hours completed, degrees earned, or grade point average. All students who are required to submit a high school record but who did not graduate should submit results of the G.E.D. examination and their incomplete high school record.

The School/College Relations Division of the Admissions and Records Office assists schools by providing representatives for college day and night programs, counseling prospective students, visiting schools on request, distributing university materials, and providing general assistance to counselors. Counselors should feel free to contact members of this staff any time when information or materials are needed.

School/College Relations Division
Office of Admissions and Records
Southern Illinois University
Carbondale, Illinois 62901
Phone: 618-453-4381
Toll Free (Illinois Residents) 800-642-3531

Thomas McGinnis	Director
George Mandin	Counselor
Debbie Perry	Counselor
Cathy Walsh	Counselor
Ben Barron (Chicago Area)	Counselor
Harriet Wilson	Counselor

ADMISSION POLICIES, REQUIREMENTS

ADMISSION OF FRESHMEN

To be eligible for admission, applicants must be graduates of recognized high schools. Graduates of non-recognized high schools may be admitted to the University by completing successfully the General Educational Development Test or an entrance examination. Persons who have not completed high school may also qualify for admission by completing the GED test provided they meet the requirements to write this examination.

All admissions granted students while in high school are subject to the completion of high school work and graduation.

Students entering the University as freshmen are enrolled in the schools or colleges within the University that offer the academic programs they indicate they plan to pursue. Students who are undecided as to the course of study they want to follow are enrolled in General Academic Programs, pre-major advisement or selected other academic units.

ACCELERATED LEARNING PROGRAM FOR HONORS AND ADMISSIONS (ALPHA)

Exceptionally capable high school students who (a) have completed their junior year, (b) are recommended by the high school principal or guidance counselor, and (c) are approved by the director of admissions of the University will be permitted to enroll for University courses to be taken concurrently with their senior year of high school work. Such students will also be permitted to enroll for University courses offered during the summer session between their junior and senior years of high school, without being concurrently enrolled in the secondary school. Enrollment during the summer for students participating in the ALPHA program is limited to eight semester hours.

It is expected that high school principals will judge each case on its individual merits, and that in making their selections and recommendations they will consider such things as:

- the rank held by the students in their high school classes;
- the results of any standardized test which the students may have taken;
- the opinion of the students' teachers regarding their aptitude for college level work;
- the opinion of the students' teachers regarding the students' having attained sufficient maturity to adjust to the social and emotional interactions involved.

Since the ALPHA Program was developed to offer the opportunity for enrichment and for acceleration of college-level courses, students are expected not to duplicate those courses offered by the high school. In their letters of recommendation, principals and guidance counselors may recommend specific classes. Every attempt will be made to follow these recommendations, provided the student meets any prerequisites for the courses.

ADMISSION OF FRESHMEN TO BACCALAUREATE PROGRAMS

Applicants seeking admission to a baccalaureate program who have an ACT composite score of 18 or higher (SAT 780) are eligible for admission any semester. In addition, high school graduates who rank in the upper half of their graduating classes and who score a minimum ACT composite of 15 or higher (SAT 700) are also eligible for admission any semester.

High school graduates who rank in the upper two thirds of their graduating class or who earn a minimum ACT composite score of 15 or higher (SAT 700) are admissible for the spring semester on a conditional basis. The conditions are that the student must enroll for a minimum of 12 semester hours and complete at least 10 semester hours of graded work with a minimum overall "C" average. Students who do not meet the conditions of probationary admission will be suspended and will not be considered for re-admission for one academic year.

Students who have been admitted or who qualify to be admitted on a conditional basis may earn transfer credit at another college or university prior to their spring semester at SIUC. However, to maintain their eligibility for spring enrollment, students must earn an overall "C" average in all work attempted.

A limited number of applicants who do not meet the University's entrance requirements may be granted admission to the fall semester through two special admission programs, Basic Skills and Special Supportive Services. All applicants who are not admissible by the above requirements will have their applications reviewed automatically for admission to one of these special programs.

Applicants interested in programs offered by the College of Engineering and Technology should see special section below.

ADMISSION OF FRESHMEN TO ASSOCIATE DEGREE PROGRAMS

Students seeking admission into the associate degree programs in the School of Technical Careers can qualify for admission any semester if they rank in the upper two thirds of their graduating class or score a minimum ACT composite score of 15 or higher (SAT 700). Students who do not qualify for admission to the associate degree programs under the above requirements may be granted conditional admission for the spring semester, provided those programs are available in spring.

Students seeking admission to Commercial Graphics-Design, Dental Hygiene, Dental Laboratory Technology, Mortuary Science and Funeral Service, Nursing or Physical Therapist Assistant programs must meet University entrance requirements as well as those of the specific programs. Admission to SIUC does NOT insure admission into one of the above two year associate degree programs. Interested counselors/students are urged to contact the individual program coordinators to determine what additional materials may be required for admission. All students will receive further information after their admission to the University.

Commercial Graphics-Design applicants must submit all materials to the University no later than December 6, 1982. A portfolio and attendance at a workshop are also required by the program.

Dental Hygiene applicants are required to take the Dental Hygiene Aptitude Test. This test must be taken in April of a student's junior year or no later than November of the senior year. All application materials to the University and to the program must be on file no later than January 15, 1983.

Physical Therapist Assistant applicants must file all application materials to the University and to the program no later than December 10, 1982 for consideration for Fall 1983.

Students interested in the associate degree Nursing curriculum must show verification of LPN or equivalent training. It is strongly recommended they apply and be admitted to the University prior to October 1, 1982.

Students may be admitted only during the fall semester to associate degree programs in Dental Hygiene, Physical Therapist Assistant, Commercial Graphics-Design and Dental Laboratory Technology.

Aviation Technology has experienced a sharp increase in applications recently, while they are required by certification standards to space limitations to maintain a ceiling on enrollment. Admission is offered to qualified students on a first-come, first-served basis, and early application (9 months to a year in advance) is strongly encouraged.

ADMISSION OF G.E.D. APPLICANTS TO UNIVERSITY PROGRAMS

Non-high school graduates may be considered for admission by satisfactorily passing the G.E.D. examination and submitting all required application materials. Students who are less than 21 years of age are also required to achieve a minimum ACT score of 15 for admission to four-year programs.

ADMISSION OF TRANSFER STUDENTS

For academic purposes undergraduate applicants for admission to the University are considered to be transfer students when they present any amount of graded work for transfer consideration which was earned after high school graduation; otherwise, they are considered for admission as new freshmen.

In the event transfer students' grade point averages cannot be determined, their admission may require, in addition to a review of their college performance, standardized examinations and secondary school records.

Transfer students who have been suspended for any reason other than academic failure must be cleared by the Student Life Office before admission will be granted by the director of admissions.

Transfer students will be admitted directly to the school or college in which their major fields of study are offered. Students who are undecided about their major fields of study will be admitted to the General Academic Programs Division or selected other units.

Transfer students from non-baccalaureate programs will ordinarily be placed in the upper division unit in which they plan to continue their studies. Students admitted to associate degree programs of the School of Technical Careers will be enrolled in that academic unit.

ADMISSION OF TRANSFER STUDENTS TO BACCALAUREATE PROGRAMS

Students who have an overall "C" average as computed by SIUC, 2.0 on a 4.0 scale (all institutions), and are eligible to continue their enrollment at the last institution attended are eligible to be considered for admission for any semester. If a student is seeking admission with fewer than twenty-six semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as a transfer student.

Transfer students who have completed a minimum of one year of work can be considered for admission one year in advance of their date of matriculation if they plan to transfer without interruption. Students who have completed less than one year of study may initiate the admission process after the completion of one semester or one quarter of work. Students who are enrolled in a collegiate program for the first time and wish to transfer upon completion of their first term may do so if they meet the University's admission requirements for beginning freshmen. Admission may also be granted one year in advance for selected programs to students who are in their first term of a collegiate program provided they qualify for admission as beginning freshmen. Admission granted to a student on partial or incomplete records is granted with the condition that the student will have maintained an overall "C" average and be eligible to continue at the last school attended. Students whose final transcripts indicate a grade point average or scholastic standing less than that required for unconditional admission will have their initial admission withdrawn.

Students who have graduated with an associate degree in a baccalaureate-oriented program from a two-year institution may enter Southern Illinois University at Carbondale any semester without regard to their average provided they have not taken additional college-parallel work since their graduation. If they have, their admission will be considered on the basis of the University's regular transfer admission standards.

Students applying for admission to the University to pursue baccalaureate programs from programs not so oriented will be considered for admission as follows: (1) a student who has been enrolled in an institution which is accredited by one of the regional accrediting associations or is in candidacy status with one of the regional accrediting associations will be considered for admission on the basis of the regular transfer admission standards and (2) a student who has completed a two-year or equivalent program with a C average in an institution which is not accredited by one of the regional accrediting associations will be admitted if the institution is one recognized by NATTS, AMA, ABET, or similar accrediting bodies recognized by the National Commission on Accrediting or the United States Office of Education. Students who have attended a non-regionally accredited institution and who have not completed two-year or equivalent programs or have less than a C average will be considered for admission as entering freshmen.

Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional work can be completed successfully. Tangible evidence might include: 1) an interruption of schooling for one or more years; 2) military experience; 3) work experience; and 4) previous academic performance.

Transfer students interested in programs offered by the College of Engineering and Technology should see special section below.

ADMISSION OF TRANSFER STUDENTS TO ASSOCIATE DEGREE PROGRAMS

Students who have an overall "C" average, 2.0 on a 4.0 scale (all institutions), and are eligible to continue their enrollment at the last institution attended will be considered for admission for any semester. If a student is seeking admission with fewer than twenty-six semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as a transfer student for unconditional acceptance.

Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional work can be completed successfully. Tangible evidence might include: 1) an interruption of schooling for one or more years; 2) military experience; 3) work experience; and 4) previous academic performance.

A student who is admitted to an associate degree program as a transfer student and then decides at a later date to enter a four-year program must meet the University's baccalaureate admission requirements at the time of transfer.

New students may be admitted only for the fall semester to selected majors in the School of Technical Careers. Please consult the admission application guide to determine when new students can be admitted to two-year programs in the School of Technical Careers.

ADMISSION TO THE TEACHER EDUCATION PROGRAM

Admission to the University does not insure admission to the Teacher Education Program. It is necessary to make formal application for admission to the Teacher Education Program. If a student has an overall grade point of at least 2.15 (4.0 scale) and a minimum of 30 semester

hours of completed academic work, including Education 201, the student is eligible for admission to the program. Students with at least 60 semester hours and/or an Associate of Arts or Science Degree may be admitted to the Teacher Education Program (assuming other prerequisites are met) and register concurrently for Education 201, 301, and 303. Application forms are available in Room 135 of the Wham Education Building and must be returned, along with the student's latest transcript, to the same office. All applications must be submitted in person. Applications received by mail are not approved.

Admission to "pending" status in the program is granted by the Coordinator of Teacher Education Services in Wham 135. This status allows a students to begin work on the block of professional education courses and experiences. Additional approval from the department offering the teaching major is required before a student can complete the sequence of professional education courses, including the semester of student teaching.

Students not approved for advancement in the Teacher Education Program will be counseled about alternative degree programs.

ADMISSION AND RETENTION POLICY IN THE COLLEGE OF ENGINEERING AND TECHNOLOGY

All qualified new students are admitted to the College with a pre-engineering or pre-engineering technology or pre-industrial technology major classification. A student must successfully complete the following requirements.

ENGINEERING

1. To advance to upper division courses and be classified under a specific departmental major, a pre-engineering student must have complete the following five courses or their accepted equivalencies with a minimum grade of C in at least four of the five courses: Mathematics 150, 250 and 251; Chemistry 222A or 224; Physics 205A.
2. To remain in the College, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in engineering used in determining the major grade point averages are courses with the prefix ENGR, EMM, ESSE, MNGE and TEE.

ENGINEERING TECHNOLOGY

1. To advance to upper division courses and be classified under a specific departmental major, a pre-engineering technology student must have complete the following four courses or their accepted equivalencies with a minimum grade of C in at least three of the four courses: Mathematics 111 and 150; ENGR 222; and Chemistry 140A or Physics 203A.
2. To remain in the College, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in engineering used in determining the major grade point averages are courses with the prefix ET.

INDUSTRIAL TECHNOLOGY

1. To advance to upper division courses and be classified under a specific departmental major, a pre-industrial technology student must have completed the following four courses or their accepted equivalencies with a minimum grade of C in at least three of the four courses: Mathematics 111; Physics 203A; ET 103 and ENGR 222.
2. To remain in the College, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in industrial technology used in determining the major grade point averages are courses with the prefix IT.

ADMISSION OF INTERNATIONAL STUDENTS

In general, international students must meet the same academic standards for admission as those required of native students. As there is considerable variation between educational systems throughout the world, precise comparative standards are not always available. Therefore, international students are selected upon the basis of their former academic work and the students' financial resources for support during the normal period of time required to reach the objectives of their studies.

In addition to submitting copies of secondary school records and, when applicable, college transcripts, international students must also submit scores from TOEFL examination (Test of English as a Foreign Language). TOEFL scores are required of all international students who (1) have completed their secondary education in a country where English is not the native language, (2) have completed fewer than two years study in a United States high school, (3) have completed fewer than two years (60 semester hours) of collegiate training in an accredited United States college or university. Students who have completed their secondary education in a country where English is the native language are required to submit scores from either the American College Test or the Scholastic Aptitude Test.

Students who have acquired immigrant status are also required to demonstrate English proficiency. English proficiency can be demonstrated by successful completion of the TOEFL examination or a special English examination administered by the Center for English as a Second Language. Immigrants who have completed at least two years of study in a United States high school, have earned sixty semester hours in a United States College or University, or have completed their secondary education in a country in which English is the native language are not required to submit TOEFL scores or write a special English examination.

International students whose secondary school and college records are acceptable for admission purposes must also receive high enough TOEFL scores for unconditional admission. Students with a TOEFL score of 525 or higher will be granted unconditional admission. Applicants whose TOEFL scores are between 475 and 524 will be admitted contingent upon completion of an English re-test administered by the Center for English as a Second Language. Students who fail to submit TOEFL scores, or who do not submit acceptable TOEFL scores, will be required to attend courses at the Center for English as a Second Language at their expense.

International students interested in making application to Southern Illinois University at Carbondale should address their inquiries to the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

ADMISSION OF SPECIAL CATEGORIES OF STUDENTS

Several types of students are given special consideration when seeking admission to the University. These are described below:

ADMISSION OF VETERANS

Veterans are admissible in good standing regardless of their previous academic records provided they have completed no college work since military separation or the college work they have completed since separation/discharge is of "C" quality or better. It is assumed a veteran has graduated from high school or has earned the GED equivalency certificate. A veteran is required to submit all of the necessary academic records to the Admissions Office before his or her application for admission can be processed.

BASIC SKILLS AND SPECIAL SUPPORTIVE SERVICES

The University operates two programs through which educationally and socially disadvantaged students are admitted to the University each fall who would otherwise not meet the University's regular admission standards for four-year programs. All four-year applicants who do not meet established admission requirements will have their applications reviewed automatically for consideration.

ADMISSION OF ADULTS AS UNCLASSIFIED STUDENTS

Adults who have never enrolled in an institution of higher education may enroll in select courses as a non-degree student without submitting all of the academic records required of a regularly admitted student. Students in this category must be high school graduates or have passed the GED Test. Applicants interested in seeking admission as an unclassified student are encouraged to write to the Office of Admissions and Records.

EVENING AND WEEKEND PROGRAM

Carbondale area residents may take advantage of the University's evening (after 4:00 p.m.) and weekend credit course offerings through the Evening and Weekend Program offered by the Division of Continuing Education. The application, admission, and registration process is streamlined for such students. Students may enroll for up to a maximum of eight semester hours credit each semester. A reduced fee structure is available. Interested students should contact the SIUC Division of Continuing Education directly, at 618-536-7751.

HOUSING INFORMATION

REGULATIONS

ALL SINGLE FRESHMEN under the age of 21, not living with parent or guardian, are required to live in on-campus residence halls, or similar privately owned residence halls. The privately owned residence halls must provide facilities, food service, and supervision comparable to on-campus housing.

ALL SINGLE SOPHOMORES under the age of 21, not living with parent or guardian, are required to live in on-campus residence halls or University approved off-campus housing. Sophomore approved housing includes rooming houses and residence hall apartments. Such facilities are not required to provide food service but are required to have University approved adult managers and are inspected and approved by the University.

There are no University regulations for JUNIOR, SENIOR, GRADUATE, MARRIED STUDENTS, VETERANS, OR those students 21 years of age or over on the first day of the semester.

UNIVERSITY FACILITIES FOR SINGLE UNDERGRADUATES

BRUSH TOWERS

The Brush Towers residential area, located on the southeast edge of the SIUC campus, consists of two 17 story air-conditioned residence halls (Mae Smith and Schneider Tower). Each hall houses 816 students (male, female, co-ed).

UNIVERSITY PARK

The University Park residential area, located on the southeast edge of the SIUC campus consists of one 17 story residence hall (Neely Hall-male, female, co-ed), and three 4-story men's triad buildings (Allen, Boomer, and Wright Halls). (This area is highly recommended for students taking classes at the School of Technical Careers or SIU Airport since the bus service departs from this location). All buildings are air-conditioned.

THOMPSON POINT

The Thompson Point residential area, located on the shores of the SIUC Campus Lake, consists of eleven halls with each housing approximately 120 students (male, female, co-ed). All buildings are air-conditioned.

CONTRACT COSTS - All Areas \$1,112/Semester \$2,224/Academic Year

Inquiries concerning on-campus housing should be directed to University Housing, Supervisor of Contracts, Washington Square; (618) 453-2301.

UNIVERSITY FACILITIES FOR MARRIED STUDENTS

SOUTHERN HILLS

The Southern Hills residential area located on the southeast edge of the SIUC campus consists of efficiency, one bedroom and two bedroom apartments for married students.

EVERGREEN TERRACE

The Evergreen Terrace residential area located on the southwest edge of the SIUC campus consists of two and three bedroom apartments for married students.

MARRIED STUDENT HOUSING COST

Efficiency apartments	\$195/month
Furnished one bedroom	\$215/month
Furnished two bedroom	\$232/month
Unfurnished two bedroom	\$224/month
Unfurnished three bedroom	\$268/month

The University pays all utilities. Interested students should contact Family Housing, Southern Illinois University at Carbondale, Carbondale, Illinois 62901; (618) 453-2301.

OFF-CAMPUS FACILITIES

Single student facilities include residence halls, apartments, rooming houses and trailer courts. Married student facilities include apartments, rooming houses, private houses and trailers. Students may obtain information on off campus facilities through the Off-Campus Housing Office, Washington Square, Building B, SIUC; Telephone (618) 453-2301.

GENERAL HOUSING INFORMATION

APPLICATION FOR HOUSING: The application for University Housing for single students is included with the application for admission. Admitted students for whom there is no housing application on file will automatically receive information and applications for housing about three weeks after admission. Priority for University Housing is determined by the date SIUC receives the completed housing application.

TERM OF CONTRACT: University housing contracts are written for the Fall and Spring semesters and remain in effect for these two semesters. Summer contracts are issued separately. Students who desire housing during both the summer and the fall should submit two separate housing applications.

SMALL GROUP HOUSING: This residential area primarily provides housing for recognized sororities and fraternities. Assignment to these areas is by invitation and interested students should contact fraternal organizations or the Inter-Greek Council, 618-453-5714.

MEAL SERVICE: In all areas except married student housing and Small Group Housing, meals are provided on the basis of 20 meals per week, 3 meals each day, 6 days per week, and breakfast and noon dinner on Sundays. Unlimited second helpings are offered.

SPECIAL INTEREST GROUPS: Students may request to be assigned to areas where their special interest can be accommodated, such as intensive study areas, transfer student areas, upperclassman, graduate areas, over 21, and University Honors Program areas.

COED LIVING: Co-educational living (alternate suites of men and women on the same floor) is available at all areas except to first semester freshmen students.

ROOM FURNISHINGS: All rooms are equipped with twin size beds, closet space, chest of drawers, desks, study chairs, and draperies. Free weekly linen service provides students with two sheets and one pillow case. Room arrangements are two students per room sharing private bath with adjoining two student room, except University Park for men which has community showers.

ROOMMATES: New students, both freshman and transfer, have the opportunity to select a roommate of their choice before arriving, provided the request is mutual, each student has a signed contract on file with advance payment by May 1, and space exists at the time room assignments are made.

REGISTRATION AND ADVISEMENT

Two registration periods are available each semester: Advance and Final.

Advance Registration is conducted during approximately 11 weeks of the preceding semester. New freshmen and transfer students entering in the Fall Semester have several weeks during April, May, June, July and August set aside for the purpose of orientation, advisement, and registration. The Advance registration period is highly recommended for new freshman and transfer students as it permits maximum course selection, counseling and campus orientation.

Final Registration is conducted during the last two weekdays preceding the start of the semester. Late applicants and students who did not advance register will complete the advisement and registration process during this period.

A similar procedure is used for advisement and registration for the Spring semester and Summer session.

ADVISEMENT

All new students (freshmen, transfers) are assigned an advisement appointment and notified by mail. Appointments are mailed out for the semester indicated around the following dates: fall, June 15; spring, October 15; summer, April 1.

All new students will receive additional information on the advance registration procedures at the time they receive their advisement appointment. Should a student find it is impossible to keep the advisement appointment he or she should contact the specific advisement unit and suggest an alternative date during the advance registration period.

Re-entry and continuing students must make their own advisement appointment with their academic unit advisement center.

PROCEDURES

Advance registration usually takes one-half day unless the student elects to take advantage of various proficiency examinations. Parents are encouraged to accompany their son or daughter.

LODGING AND PARKING

Adequate lodging facilities are available in and near the community at various motels. A list is included in the registration information.

In addition, guest parking permits are included in the registration information packet for use in regular University lots. The Arena parking lot, Student Center lot, and metered stalls on campus are available for campus parking to visitors.

FEE ASSESSMENT

Students who have been awarded scholarships (i.e., ISSC) should bring a copy of the award notification so that their fees can be assessed accordingly.

ORIENTATION: TWO HOURS

Guests are welcome to tour the campus or visit offices related to their special needs (housing, financial assistance, etc.). In addition, the Office of Student Development coordinates scheduled orientation programs to help the new or transfer student become more familiar with SIUC each day of advance registration. Through participation at these sessions, students and parents meet with various University faculty and staff depending on the orientation program chosen. A formal orientation program is offered Wednesday through Sunday prior to the start of the Fall Semester. All students are strongly encouraged to attend. For more information contact the Office of Student Development (618-453-5714).

ADVISEMENT: APPROXIMATELY FORTY-FIVE MINUTES

A student is advised of requirements and proficiency opportunities, discusses vocational plans, and then selects appropriate courses.

REGISTRATION: ONE HOUR

The student selects the time his or her classes will meet and obtains an I.D. badge.

ADVICE CENTER

	Area code (618)
General Academic Programs	453-4351
Pre-Major Advice, Pre-Nursing	
School of Agriculture	453-3080
College of Business and Administration	453-5250
College of Communications and Fine Arts	453-4308
Art (Allyn)	453-4315
Cinema and Photography (Communications Building)	453-2682
Communication Disorders and Sciences	453-4301
Journalism (Communications Building)	536-3361
Music (Altgeld Hall)	453-2527
Radio-Television (Communications Building)	453-4343
Speech Communication (Communications Building)	453-2291
Theater (Communications Building)	453-5741
College of Education	453-2354
College of Engineering and Technology	453-2261
College of Human Resources	536-2378
College of Liberal Arts	453-3388
College of Science	536-5537
School of Technical Careers	536-6682
(All majors except:)	
Automotive Technology	985-4110
Aviation Technology, Avionics Technology	536-3371
Construction Technology	985-4110
Physical Therapist Assistant	453-2361
Tool and Manufacturing Technology	985-4110

COSTS

TUITION AND FEES

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis, with 12 hours considered full time. The following fee schedule is for the 1982 Fall Semester.

ON-CAMPUS UNDERGRADUATE FEE SCHEDULES

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 33.75	\$ 76.31	\$110.06	\$101.25	\$ 76.31	\$177.56
2	67.50	85.37	152.87	202.50	85.37	287.87
3	101.25	96.69	197.94	303.75	96.69	400.44
4	135.00	108.17	243.17	405.00	108.17	513.17
5	168.75	119.64	288.39	506.25	119.64	625.89
6	202.50	131.13	333.63	607.50	131.13	738.63
7	236.25	142.61	378.86	708.75	142.61	851.36
8	270.00	154.08	424.08	810.00	154.08	964.08
9	303.75	165.56	469.31	911.25	165.56	1076.81
10	337.50	177.04	514.54	1012.50	177.04	1189.54
11	371.25	188.52	559.77	1113.75	188.52	1302.27
12*	405.00	200.00	605.00	1215.00	200.00	1415.00

All students will pay the full Student Medical Benefit Fee of \$60.00, which will entitle them to full medical benefits at the Health Service. An on-campus student may seek a refund of the Student Medical Benefit Fee within the first three weeks of each semester by contacting the administrative director of the Health Service. The on-campus undergraduate student fee also includes allocations to the Student Medical Benefit Fee, Student Recreation Fee, Athletic Fund Fee, Student Center Fee, Student Activity Fee, Student-to-Student Grant, and Bond Retirement Fee.

The Student-to-Student Grant Program Fee is voluntary. Students may receive a full refund for this fee by requesting such within ten days following full tuition and fee payment.

Payment: Tuition and fees are payable by semester. A student who advance registers receives a Statement of Account and may pay either by mail or in person at the Bursar's Office, by the deadline date specified on the statement. Students who register for classes who do not pay their tuition and fees by the specified deadline will have their registrations cancelled. The University provides students with an opportunity to pay tuition and fees on an installment basis if they choose to do so. There is a nominal service charge for installment payments.

A student holding a valid scholarship is exempt from tuition and fees to the extent prescribed by the scholarship. An Illinois State Scholarship may cover all tuition and fees or it may be a partial award.

Tuition Costs by Year: Full time Illinois residents will pay \$1,210.00 per year for tuition and fees (Fall and Spring semesters). Full time out-of-state (non-residents) students will pay \$2,830.00 per year for tuition and fees.

Total University Charges: Full time Illinois residents can expect to pay up to \$2,224.00 per year in housing costs bringing total University charges to approximately \$3,434.00 per year for room and board, tuition and fees. Full time out-of-state students can expect to pay up to \$2,224.00 per year for housing bringing total University charges to approximately \$5,054.00 per year for tuition and fees, room and board.

Textbooks: Students must purchase all textbooks (estimated between \$300-\$350 per year).

Personal Expenses: Includes transportation to and from home, entertainment and personal items estimated at \$1,000.00 per year.

FINANCIAL ASSISTANCE

The Office of Student Work and Financial Assistance at SIUC makes every attempt to insure that all students have the economic opportunity to matriculate and continue their education at SIUC.

Every effort is made to provide a "package" of financial assistance to those students who qualify including scholarships, grants, work, and loans.

SIUC distributed over 46 million dollars in financial aid last year, over 7000 student workers were employed, and approximately 70% of all the students on the SIUC campus received some form of financial aid.

TYPES OF ASSISTANCE

SCHOLARSHIPS

- Illinois State Scholarship Commission Monetary Award
- Southern Illinois University Scholarship
- Illinois State ROTC National Guard
- Junior/Community College Scholarship
- National Collegiate Athletic Association Award
- Association of Intercollegiate Athletics for Women
- Illinois State Military Scholarship
- General Assembly Scholarship
- Dependents of Prisoners of War and Missing in Action
- Survivors of Policemen or Firemen Killed in the Line of Duty
- Air Force ROTC

GRANTS

- Pell (Basic) Grant
- Supplemental Educational Opportunity Grant (SEOG)
- Special Education Traineeships
- Vocational Rehabilitation

LOANS

- National Direct Student Loan (NDSL)
- Illinois Guaranteed Loan
- Guaranteed Loans for Out-of-State Students
- Short Term Emergency Loans

PART-TIME EMPLOYMENT

- Student Work (On-Campus)
- Federal Work-Study (On-Campus)
- Student Work (Off-Campus)
- Cooperative Education Work Program
- Summer Work Program Nationwide

OTHER

- Veterans - Chapter 34 G.I. Bill
- Veterans - Chapter 35
- Veterans - Chapter 31 Vocational Rehabilitations
- Veterans - Pension for Dependent of Deceased or Disabled Vets (Form 674)
- Social Security
- Railroad Retirement

GENERAL INFORMATION

How to Apply for Financial Assistance at SIUC

To apply for the majority of financial aid programs coordinated through the Office of Student Work and Financial Assistance, students must complete and mail to Iowa the 1983-84 American College Testing/Family Financial Statement (ACT/FFS). The ACT/FFS Need Analysis Form allows students to apply for:

1. Pell (Basic Grant)
2. Illinois State Scholarship Commission Monetary Award (Illinois residents only).
3. Campus-Based Aid Programs: Supplemental Educational Opportunity Grant (SEOG)
National Direct Student Loan (NDSL)
Student to Student Grant (STS)
College Work Study (CWS)

To allow adequate time for financial aid requests to be processed before Fall 1983 classes begin, the American College Testing/Family Financial Statement (ACT/FFS) for the 1983-84 academic year must be completed and mailed to ACT by April 1, 1983. Since campus based aid is awarded contingent upon available funds, applications mailed after April 1 will be processed on a funds-available basis. An ACT/FFS must be submitted each year to re-establish eligibility. *SIUC does not accept the College Scholarship Service/FAF (financial aid form).

Complete and mail the ACT/FFS to Iowa City, Iowa as soon after January 1, 1983 as possible, but no later than April 1, 1983, to be assured priority processing for campus-based aid. It takes approximately four to six weeks for this form to be processed and forwarded to our office. The results of this need analysis must be received by the SIUC Student Work and Financial Assistance Office before a student can be considered for campus-based aid (NDSL, SEOG, STS) and/or the Student Work Program. (Students must include the ACT processing fee and enter SIUC's school code).

All undergraduate students applying for financial assistance at SIUC should apply for the Pell (Basic) Grant. SIUC recommends that students apply for the Pell Grant through the ACT/FFS. Note: As soon as students receive the Student Aid Report (SAR) from the Pell Grant program, they must review it for accuracy, sign where indicated, and mail it to the SIUC Office of Student Work and Financial Assistance.

All undergraduate Illinois residents who are applying for financial assistance at SIUC should apply for the Illinois State Scholarship Commission Monetary Award (ISSC). Students are encouraged to apply well in advance of application deadlines, since these funds may be limited. Apply as soon as applications are made available.

Financial Assistance/Transfer Students -- Transfer students should know that financial aid being received at their previously attended school(s) does not automatically follow them to SIUC. Transfer students should check with the Student Work and Financial Assistance Office to determine if their student assistance will be transferrable to SIUC and to discover what new financial assistance opportunities may be available.

Federal regulations require transfer students seeking federally supported financial assistance at SIUC to forward a "Financial Aid Transcript" indicating all financial assistance received from the school(s) previously attended. Financial Aid Transcript forms will be mailed from the Student Work and Financial Assistance Office upon admission to SIUC. They should be completed by the previously attended school(s), signed, and returned to SIUC.

Students wishing to continue a National Direct Student Loan (NDSL), a Supplementary Educational Opportunity Grant (SEOG), or to qualify for a Work-Study job must reapply for these at SIUC by submitting a FY 83 ACT/FFS. Students currently holding an Illinois Guaranteed Loan (IGL) should check with the issuing lender to make sure the loan may be continued at SIUC.

Students with a Pell (Basic) Grant who may be transferring to SIUC must provide an original or duplicate Student Aid Report (SAR) from the Pell Grant Program for submission to the SIUC Student Work and Financial Assistance Office. Students who are currently receiving an Illinois State Scholarship Monetary Award (ISSC) must notify the Illinois State Scholarship Commission about the anticipated transfer. The amount of the award will then be recomputed and adjusted to reflect the costs of attending SIUC.

Policy on Satisfactory Progress for Students Receiving Financial Assistance --

At this time, the SIUC Policy on Satisfactory Progress for students receiving financial aid is being revised. Information concerning the Satisfactory Progress Policy can be obtained by contacting the Office of Student Work and Financial Assistance prior to the 1983-84 academic year.

NOTE:

At the time of publication, the financial aid picture is undergoing changes. Be sure to have the most current information when applying for financial aid.

Students and counselors desiring additional information should contact:

Office of Student Work and Financial Assistance
Woody Hall, B wing, Third Floor
Southern Illinois University at Carbondale
Carbondale, Illinois 62901
(618-453-4334)

STUDENT SERVICES: STUDENT ACTIVITIES/ATHLETICS/INTRAMURALS

SERVICES

Career Counseling Center, 618-536-2096; Career Planning and Placement Center, 618-453-2391; and Testing Office, 618-536-3303

This trio of offices provides students the opportunity to explore occupations and develop vocational interests, examine individual potentials and interests, examine job market opportunities, and be assisted in placement into a career. Vocational and educational counseling, testing, and placement services are provided. Students may also arrange for programs such as the Graduate Record Examination, Miller Analogy test, Law School Aptitude test, etc. See also section on "Entry Level Job Titles."

Counseling Center, 618-453-5371

The Counseling Center is staffed with professional counselors qualified to assist students with personal development and resolution of problems. Personal problems, marital adjustment difficulties, social skill development, parental conflict, and sex role awareness development are areas of frequent concern to students. Counseling is provided through one to one student-counselor contact or in group discussion within an atmosphere of confidentiality and trust.

Office of Women's Services, 618-453-3655

The purpose of the Office of Women's Services is to maximize the opportunities and experiences of women who choose to attend SIUC. One of the most important functions of the office is to facilitate personal growth that can result in assisting women in recognizing and developing their potential for success--both during and after college. The services fall into four categories: 1) A clearinghouse for resources and referral information; 2) Development and implementation of outreach programming (i.e., workshops, seminars, groups, lectures) on topics relevant to women; 3) Consultation for other services that are working with women in the University and community; and 4) Advocacy and support for women students, including providing programs designed specifically to assist adult women students who are returning to school or who are furthering their education.

Specialized Student Services, 618-453-5738 (Voice or TTY)

This office coordinates and provides support services to disabled students including those who are non-ambulatory, semi-ambulatory, visually impaired, hearing impaired, learning disabled, or otherwise permanently disabled. A wide range of support programs and services are offered including: academic support services, special transportation and parking arrangements, modified housing, adapted recreational activities, wheelchair repair, personal attendants, and specialized career counseling and placement services. The academic support services include: test proctoring services for students needing additional time or reading or writing assistance to complete regular course exams; pre-enrollment planning for support services; readers, taped texts, special equipment, and mobility training for the visually impaired and learning disabled; notetakers and interpreters; and special counseling and communications training for the hearing impaired. The Illinois Department of Rehabilitation Services (IDORS) maintains an on-campus office, and the SSS office has close liaison with IDORS to facilitate admission and enrollment of disabled students sponsored by IDORS. The SIUC campus is highly accessible, and all programs, services, and activities are available to disabled students. The disabled individual applies for admission in the same manner as any other applicant. The nature or severity of disability have no bearing on the admission determination. Interested disabled persons are strongly encouraged to formally apply for admission as far as possible in advance of the semester starting date in order that all necessary support services, financial assistance, special equipment, and housing arrangements may be arranged in advance.

Office of Student Development, 618-453-5714

The Office of Student Development works with more than 350 student organizations in fiscal management, organizational matters, and helping them to better understand and utilize the policies and procedures of the University relating to student activities and governance.

Among the organizations are the Undergraduate Student Organization and Graduate Student Council, which are the official representative student organizations for their representative constituencies. It is the initial responsibility of these two groups to represent students in University affairs which determine student life on campus. The Black Affairs Council is coordinating and governmental body for the eighteen black student organizations of the University. The Council takes a major responsibility for programming social, cultural, and educational programs for those interested in black affairs. The Inter-Greek Council is the activity coordinating council for the University's eighteen social fraternities and eight social sororities. This council provides activities which create responsibility for and awareness of the academic community as well as the Carbondale community. The remainder of the vast number of student organizations consist of a varied list of special and public interest groups, religious groups, scholastic and professional honoraries, and departmental organizations. A year-round student volunteer program, Mobilization of Volunteer Effort, is also operated from this office.

The Office of Student Development provides a comprehensive orientation program for new students and their parents. The format of the orientation sessions introduces the participants to the purposes, offices, programs, services, and procedures of the University. The primary purposes of orientation are to reduce anxiety and to acquaint students with the University's vast resources, services and programs.

In cooperation with the Department of Higher Education, the Office of Student Development provides opportunities for students to receive academic credit for their participation in student activities, programming, student organizations, and student governance. Opportunities are available in student governance, leadership development training course for fraternity and sorority members, undergraduate internship/practicum in student activities, and leadership development training course for new student leaders and student life advisers.

The Office of Student Development is also involved with Parents' Weekend, Activities Fair, and programs and activities for international and non-traditional students.

Social Activities

The University annually sponsors over 5,000 student activities. These include formal, semi-formal, and informal activities.

Annual all-campus events include Homecoming, Parent's Weekend, International Festival, Theta Xi Variety Show, Convocations, Celebrity Series, Arena Series, Community Concert Series, films (movie hour and cinema classics), theater productions, and various instrumental and vocal performances. In addition, the calendar includes activities sponsored by the Undergraduate Student Organization, Saluki Marching Band, Debates, and important meetings, lectures, seminars, symposia, colloquia, and conferences.

Undergraduate Student Organization, 618-536-3381

The Undergraduate Student Organization is composed of the Campus Senate, which reflects student concerns, passes bills and resolutions on student affairs, and gives recognition and financial assistance to student organizations.

Social Organizations

There are approximately 350 recognized University-approved student organizations on the SIUC campus. Every student has the opportunity to become actively involved in both academic and departmental organizations as well as an exhaustive number of social organizations.

Almost every ideology and special interest group is represented on the SIUC campus, all which benefit students greatly in both their academic, professional and social development.

Interested students should feel free to contact the Office of Student Development for information on special student groups.

Touch of Nature, 618-529-4166

The University's Touch of Nature Environmental Center is a 3,100 acre facility located approximately 8 miles southeast of campus. As a unique outdoor living-learning center, it is unequaled in size and scope in the midwest. Serving both the entire University and the public, the Center's expansive residential facilities and programming components provide both credit and non-credit opportunities. Rustic residential facilities include two fully equipped camps with large dining, meeting, and summer and winter sleeping accommodations.

As a model facility for experiential education research and recreation the Center offers eight major year-round programs. These are conferences for business, industry, educational and other agencies; Emergency Preparedness and Rescue Training; Environmental Education Workshops; Residential Camping Programs for the young and elderly; Wellness Lifestyling; and three Wilderness Adventure Programs--Spectrum, Underway and Student Outdoor Adventure Recreation (SOAR). In the summer time, in particular, Camp II is teeming with programs for handicapped children and adults, and Camp I is similarly buzzing with functionally-able people of all kinds.

The Center also serves as a field site for such departments as botany, forestry, recreation, special education, rehabilitation, zoology and administration of justice. Internship and practicum credit is available.

INTERCOLLEGIATE ATHLETICS

Southern Illinois University at Carbondale boasts one of the country's best all-around sports programs. The Salukis compete successfully in the National Collegiate Athletic Association's Division I (I-AA for football), which includes the nation's top 126 athletic programs, and in Division I of the Association for Intercollegiate Athletics for Women (AIAW).

Carrying the unusual nickname of "Salukis" (an Egyptian hunting dog known for its speed), the SIUC men's teams gained national prominence in the early 1960s and have managed to maintain their excellence ever since. After operating as an independent for a number of years, the Salukis joined the Missouri Valley Conference, one of the nation's strongest basketball leagues, in 1975 and have fared well ever since.

SIUC has been particularly strong in baseball, basketball, cross-country, gymnastics, swimming and track in recent years and its 1967 basketball team captured the National Invitation Tournament behind the outstanding leadership of Walt Frazier. A number of student-athletes have gained national individual titles in the past 20 years and literally hundreds have received All-American recognition.

Although SIUC's football program had several lean years in the early 1970s, it has since made a remarkable recovery and is now looking forward to bidding for a national title in Division I-AA.

Women's Intercollegiate Athletics (WIA) actively encourages female students to participate in one or more of the ten varsity sports that currently comprise the well-respected SIUC program. Student-athletes can refine skills and match competitive talents with the nation's best in basketball, cross country, field hockey, golf, gymnastics, softball, swimming and diving, tennis, track and field, and volleyball.

WIA participants benefit from: the personal instruction and guidance of an established coaching staff and a number of paid assistants; auxiliary services of a professional support staff; a wide range of competitive opportunities at conference, state, regional, national and international levels. Additionally, those in the program have daily access to the ultra modern equipment and facilities of Davies Gym, the traditional home of WIA where a \$3.25 million renovation was recently completed.

For students and area sports enthusiasts alike, WIA annually sponsors outstanding special events. In recent years, a number of international exhibitions, national championships in volleyball and field hockey, and gymnastics spectacles have been conducted and well received on campus.

For SIUC students interested in obtaining work experience in areas of athletics, student work positions are generally available for: training aides, team managers, clerical assistants, sports information and promotional aides, and facility and equipment personnel.

Coaches (Men's Athletics)

Baseball: Richard Jones
Basketball: Allen Van Winkler
Cross-Country: Bill Cornell
Football: Ray Dempsey
Golf: Mary Beth McGirr

Gymnastics (Men): Bill Meade
Swimming: Bob Steele
Tennis: Dick LeFebvre
Track: Lew Hartzog

Coaches (Women's Athletics)

Basketball: Cindy Scott
Cross Country: Claudia Blackman
Field Hockey: Julie Illner
Golf: Mary Beth McGirr
Gymnastics: Herb Vogel

Softball: Kay Brechtelsbauer
Swimming and Diving: Tim Hill,
Dennis Golden
Tennis: Judy Auld
Track and Field: Claudia Blackman

Athletic scholarships are awarded by coaches of individual sports. Applicants interested in obtaining more information on athletic scholarships are encouraged to contact the coach in the area of their interest.

Intercollegiate Athletics for Men

Telephone: 618-453-5311
Football Office: 618-453-3331
Location: Arena 118

Intercollegiate Athletics for Women

Telephone: 618-536-5566
Location: Davies Gym

Intramural Athletics (Men and Women)

SIUC provides extensive opportunities for students to participate in intramural athletics. Competition in a variety of sports is available. In addition, a new 140,000 square foot recreation building is now in operation.

Intramural Athletics Office: 618-536-5531

MOTOR VEHICLES

REGISTRATION

All motor vehicles (and bicycles) operated on campus must be registered with the University Parking Division. An eligible student may register only his or her own vehicle or a vehicle of a member of his or her immediate family. Only eligible students may park on campus.

ELIGIBILITY

Graduate students and the following categories of undergraduate students may apply for permission to use, operate, park, or possess motor vehicles on campus during posted hours.

1. Juniors and seniors (56 credit hours or more).
2. Veterans with two years of military service.
3. Married students.
4. Students residing in the home of parents or guardian.
5. A student who requires a motor vehicle for reasons of health or physical condition as certified in writing by Specialized Student Services.
6. A student who is certified in writing by the Office of Student Work and Financial Assistance to require a motor vehicle for purposes of employment.
7. A student not covered by 1 through 6 preceding whose reason for requiring a motor vehicle is judged valid by the appropriate dean of students and so certified in writing.

APPLICATION AND FEE

Each applicant must present a valid operator's license, vehicle registration card or notarized license-applied-for receipt, proof of liability insurance, and current University identification card. Dealer license plates are not acceptable for motor vehicle registration. If a parking decal is purchased, a fee is charged and is determined by the type of decal an applicant is eligible for and receives, currently \$2-\$30.

Yellow registration decals will be issued for \$2.00 upon proper application.

NOTE: Decals issued, according to color, indicate the nature of any parking privileges permitted the holder.

All decals are valid until September 1, or until revocation or loss of eligibility. The extent of the motor vehicle privilege granted to any person shall be based on need or advanced academic standing, in general accordance with the following criteria:

1. First opportunity to obtain blue decals (\$30) will be granted to full-time employees and to students whose health or physical condition require the privileges thereof. Handicapped students will be assessed \$10 for the blue decal.
2. All employees and students eligible in accordance with any of the categories mentioned under ELIGIBILITY may apply for red decals (\$10).
3. A yellow decal serves as evidence of the proper registration of a motor vehicle by an eligible student. It authorizes parking on campus in lots 24 (Campus Lake), 56 (Arena), and at the Student Center meters during the posted hours.
4. Temporary permits may be issued in unusual circumstances, and can be obtained from the Parking Division Office.
5. Guest permits are available to University visitors and offices, guests of University housing residents and guests of the Baptist Student Center free of charge.

For additional information or parking brochure contact:

University Parking Division
Southern Illinois University at Carbondale
Washington Square Building D
Carbondale, Illinois 62901
Phone: 618-453-5369

UNIVERSITY RECOGNITION OF HIGH SCHOLASTIC ACHIEVEMENT

A Scholastic Honors Day convocation is held each spring to honor students exhibiting high scholastic achievement. Candidates for a bachelor's degree in May or August who have maintained a grade point average of 3.50 or higher for all of their work through the fall semester of their senior year receive special honor. All other students having a 3.50 average are also honored at the convocation. The 3.50 average is required for all work taken at SIUC and, in the case of transfer students, for the total record. Except in the case of graduating students, students must be attending full-time to be eligible.

Graduating students with scholastic averages of 3.90 or higher receive University highest honors; those with 3.75 - 3.89 averages receive University high honors; and those with 3.50 - 3.74 receive University honors. This is recorded on the student's academic record cards and on their diplomas. The averages are required for the work taken at Southern Illinois University at Carbondale and, in the case of transfer students, for the total record.

Successful participants in all-campus honors programs which require maintenance of appropriate minimal scholastic standards, such as the University Honors Program, receive recognition by notation on their academic records and on their diplomas. Honors courses, individual honors work, and honors curricula, all designed to serve students with high scholastic potential, are offered by departments in the School of Agriculture, the College of Human Resources, the College of Liberal Arts, and the College of Science. A departmental or unit honors program consists of no fewer than six nor more than fourteen semester hours in research or independent study which is counted toward the students' majors. Some honors programs require a comprehensive examination at the end of the junior year and again at the end of the senior year. Grades may be deferred at the end of the first semester, but not from one school year to the next.

At the end of each semester, a dean's list is prepared. The criteria for inclusion on the dean's list is established by each of the academic units. To be recognized as being on the dean's list, the student must have been in attendance full-time (12 semester hours or more) and must have earned the average for the semester which has been specified by the academic unit. If the student has met the criteria established, a notation will appear on the grade slip at the end of the semester.

A variety of professional, departmental, and fraternal honorary organizations offer recognition and membership based upon scholastic achievement. Election or selection to most honoraries is noted at the Scholastic Honors Day convocation.

PROGRAM FLEXIBILITY FOR THE STUDENT

Southern Illinois University at Carbondale offers students a wide variety of programs on all higher educational levels. In addition, the University gives constant attention to methods whereby it might better serve present day educational needs. Described below are opportunities provided students to either earn credit through means other than the traditional class-room method or develop programs better suited to individual student needs than already established programs. While greater flexibility is the goal, the University exercises appropriate supervision to ensure that flexibility is accompanied by educational soundness.

CREDIT BY MEANS OTHER THAN CLASSROOM ATTENDANCE

Several methods are provided for students to earn credit by means other than the traditional classroom method. The methods currently available are described below.

HIGH SCHOOL ADVANCED PLACEMENT PROGRAM

Through the High School Advanced Placement Program high school students who are qualified through registration in an advanced placement course in their high schools or through other special educational experiences may apply for advanced placement and college credit through the Advanced Placement Program of the College Entrance Examination Board, 475 Riverside Drive, New York, New York 10027. To receive credit, students must earn a grade of 3, 4, or 5. Interested high school students should write the Office of Admissions and Records to learn the current listing of courses for which credit may be earned through this program.

Ordinarily, the maximum credit granted through advanced placement examination is fifteen hours. It is nonresident credit, does not carry a grade, and is not used in computing the students' averages. Credit granted at another accredited college or university under this plan is transferable to this University up to a maximum of fifteen hours. Students may appeal to academic deans to be granted more than fifteen hours.

The following courses are those in which a student may currently earn credit through the Advanced Placement Examination of the College Entrance Examination Board:

1. Physics: Consult Physics Department Chairperson
2. Chemistry: Chemistry 224 (5 sem. hrs) and 225 (2 sem. hrs) or
Chemistry 222A (4 sem. hrs.) and 222B (4 sem. hrs.)
3. Biology: GSA 115 (3 sem. hrs.)
4. History: European - History 200 (3 sem. hrs.)
American - GSB 300 (3 sem. hrs.) and GSB 301 (3 sem. hrs.)
5. English: GSD 101 (3 sem. hrs.)

6. Foreign Languages: Consult chairperson, Department of Foreign Languages and Literatures
7. Mathematics: Calculus AB: Mathematics 150 (four sem. hours) Calculus BC: Mathematics 150 & 250 (8 sem. hours)
8. Music: Consult Director, School of Music
9. Art: Consult Director, School of Art

COLLEGE LEVEL EXAMINATION PROGRAM - Policy Effective Summer 1981

Through the General Examinations of the College Level Examination Program (CLEP), students may apply for credit which will substitute for General Studies courses. With a score of 520 or higher on the appropriate examination, it is possible for students to receive six semester hours of credit in each of the three fields of natural sciences, social sciences and history, and humanities.

A score of 580 or higher is required to pass the mathematics test. With this score, students may earn four hours of credit which will fulfill the General Studies mathematics requirement.

A student who scores 675 or above on the CLEP English examination will receive five semester hours credit (three semester hours GSD 101 and two semester hours GSD 117). A score of 650 to 674 entitles a student to (a) advanced placement in GSD 120, Freshman Honors Composition, and (b) five semester hours credit upon the satisfactory completion of GSD 120 with a grade of C or higher (three semester hours GSD 120 and two semester hours GSD 117).

Transfer students who enter SIUC with CLEP credit on their transcript for all but English will receive that credit here with no reduction in hours. Transfer students desiring CLEP General English credit must submit an official score report for evaluation.

If, prior to taking the CLEP examination, students have received a grade or audit in college level work in any discipline included in the CLEP exam or if they have enrolled in such a course, they shall be ineligible for credit. An exception to this rule is made in the case of students who enroll in the Early Admission or ALPHA programs. Such students receive university credit for courses taken during the Early Admission or ALPHA experience, and for the CLEP credit earned. An exception is also made for those students who previously received a grade or audit in a college level Black American Studies course (since this subject matter is not included in the CLEP tests). Such students will receive both course credit and CLEP credit earned. The science exam includes botany, microbiology, physiology, zoology, chemistry, physics, earth science, geography, and all General Studies Area A courses. The social sciences and history exam includes western civilization, American History, Afro-Asian civilization, world history, political science, economics, anthropology, sociology, social psychology, social studies, and all General Studies Area B courses. The humanities exam includes literature--poetry, fiction, drama, non-fiction, creative writing; films and performing arts; art--art appreciation, art history, architecture (past and present); music--classical, modern or jazz; humanities--all general humanities courses; all General Studies Area C courses; philosophy--aesthetics, ethics, general survey. The mathematics test includes all college level mathematics.

Student may be exempted from all General Studies requirements if they (1) pass all five CLEP General Examinations before entering the University with these minimum scores: natural sciences, social sciences, and humanities--520; English--675; and mathematics--580, and (2) become members of the University Honors Program. No retroactive extension of this CLEP privilege will be allowed.

For further information, students should consult their academic advisor.

CLEP examinations should be taken at one of the national testing centers and the results are then forwarded to the Office of Admissions and Records for evaluation.

PROFICIENCY EXAMINATIONS

Through its proficiency examination program the University recognizes the importance of providing encouragement for academically talented students. Such students are permitted to make application to demonstrate the mastery of certain courses through proficiency examinations. Application forms are available at the departmental offices.

The following general rules govern the proficiency examinations for undergraduate credit.

1. Students who believe they are qualified to take a proficiency examination should check with the department offering the course to determine their eligibility to do so; students scoring in the top ten percent of ACT are particularly encouraged to avail themselves of this opportunity.
2. Credit not to exceed thirty hours (fifteen hours toward an associate degree), including credit through the College Entrance Examination Board, Advanced Placement Program, and the College Level Examination Program may be earned through proficiency examinations. Credit will be nonresident. (A combined total of 40 hours may be earned through proficiency examinations and credit for work experience.)

3. Upon passing proficiency examinations students are granted course credit and receive a Pass grade. Their records will show the name of the course, the hours of credit granted, and a notation "credit granted by proficiency examination." Students who fail a proficiency examination receive a Fail grade. This results in no penalty to the students. They will not receive credit and their records will show nothing regarding the proficiency examination. However, the proficiency examination grade report form will be filed in the students' folders for reference purposes.
4. Students may not take proficiency examinations for the same course more than one time. Nor may they take a proficiency examination in a course in which they have previously received a grade.
5. No credit granted by proficiency examinations will be recorded until the student has earned at least 12 hours of credit of "C" grade or above in residence at Southern Illinois University at Carbondale.

CREDIT FOR WORK EXPERIENCE

Work experience in the form of internships or student teaching is a common instructional technique. Southern Illinois University at Carbondale also permits certain undergraduate programs to grant credit for work experience that relates to students' areas of specialization. The credit granted is to apply to the major program and is awarded only upon approval by the major departments. Credit earned by work experience is limited to 30 hours and any combination of credit for proficiency examinations and credit for work experience is limited to 40 hours. Credit granted for work experience is considered nonresident credit when granted for work that is not part of a regular instructional course. Students should consult with their major departments to see whether they approve credit for work experience.

SPECIAL PROGRAMS

THREE-YEAR BACCALAUREATE DEGREE PROGRAM

It is possible for students to complete the regular four-year baccalaureate degree program in three years by utilizing proficiency examinations. The equivalent of one year of credit (30 semester hours) may be earned by this method. Students who desire to follow the three-year program should make the fact known to their academic advisors at the earliest possible date so their eligibility can be determined. A combination of programs may be employed to accumulate these 30 hours as described above in the section on Credit by Means Other than Classroom Attendance.

COOPERATIVE EDUCATION

The Cooperative Education Program, included in the Career Planning and Placement Center, is an optional educational pattern that provides an opportunity for students to alternate periods of academic study with periods of off-campus employment related to the student's academic majors or career goals. Periods should be of sufficient duration to provide meaningful classroom and off-campus experiences. Cooperative education provides students an opportunity to earn funds that may be needed to support and complete their education, while it gives them off-campus experiences that are closely integrated with and that enrich their total education.

SCHOOL OF TECHNICAL CAREERS INDIVIDUALIZED BACCALAUREATE PROGRAMS

The University provides an opportunity to continue educational pursuits toward a baccalaureate degree for students possessing an occupational, technical, or other similarly connotated educational background. The School of Technical Careers offers a Bachelor of Science degree in technical careers programs for such students. Individually designed programs are developed to meet the individual needs of the students. Programs do not duplicate baccalaureate programs already offered by other academic units.

The regular University baccalaureate admission and other academic requirements and regulations are followed in the technical careers program. A more detailed description appears later in this catalog under "Technical Careers."

UNIVERSITY STUDIES DEGREE PROGRAM

The University Studies Program provides the student with another option for earning a baccalaureate degree. The program is intended for the student who wants a broad, general education and does not wish to specialize on the undergraduate level. In fact, the program was proposed to serve the many students who express the desire to receive a degree, but whose interests are so varied as to preclude a major in a traditional discipline. Students may work toward either a Bachelor of Arts or Bachelor of Science degree in University Studies.

Students interested in the University Studies degree program should come to Woody Hall, Room C117, to pick up the guidelines for the program.

SPECIAL MAJOR

Individual students with academic needs not met in any of the existing majors within the University may arrange a program of courses more suited to their special requirements. Information on the procedures for establishing a Special Major may be obtained from the dean, General Academic Programs.

CAPSTONE PROGRAM

The Capstone Program is a program for the transfer student, with an Associate in Applied Science degree or equivalent certification, whose needs can be met within one of the participating departments. It is a two-year program that gives maximum credit for previous academic and work experiences in the student's occupational field. The purpose of a Capstone Program is to provide an opportunity for students to add to the marketable occupational skills and competencies which they have already acquired.

Key features of the Capstone Program are: (1) It is for selected occupational students who have changed their educational and occupational goals; (2) It is an alternative baccalaureate degree program involving no more than two additional years of college at a four year institution; (3) It seeks to recognize similar objectives in both two year occupational programs and four year baccalaureate degree programs; (4) It seeks to recognize similar objectives in certain work experiences and in four year baccalaureate degree programs; and (5) It provides a unique opportunity for developing secondary and post secondary occupational teachers who possess strong work experience and training in a variety of technical specialties and sub-specialties.

The Capstone Program at Southern Illinois University at Carbondale can lead to the Bachelor of Science degree in any of the following areas:

School of Agriculture
Agribusiness Economics
Agricultural Education
Agricultural Education and
Mechanization
Agriculture, General
Animal Industries
Plant and Soil Science

College of Education
Business Teacher Education
Home Economics Education
Occupational Education

College of Human Resources
Administration of Justice
Child and Family
Clothing and Textiles
Food and Nutrition

College of Engineering and Technology
Industrial Technology

School of Technical Careers
Baccalaureate degree programs--individualized programs

Requirements for the Bachelor of Science Degree Through Capstone

A student completing the degree through the Capstone Program must complete the hour requirements, residence requirements, and average requirements that are required for all bachelor's degrees. The specific course requirements for the Capstone Program are explained below.

The following General Studies requirements must be satisfied:

Science	6 semester hours
Social Science	6 semester hours
Humanities	6 semester hours
Health and Physical Education	3 semester hours
English Composition	one course
Mathematics	one course
Speech	one course
Minimum Total	30 semester hours

In addition to the General Studies requirements, the student must complete the requirements specified in a contract to be developed between the student and the academic unit or department representative. The contract will list the remaining requirements for the baccalaureate degree.

Procedures for Applying to the Capstone Program

To be considered for the Capstone Program, the following basic conditions must be met:

1. Admission to the University and to the department offering the capstone option must be completed. An application to the Capstone Program cannot be considered prior to official admission into the University.
2. The applicant must complete an associate degree program or its equivalent certification.
3. The applicant must have a minimum grade point average of 2.25 (4.0 grading scale) as computed by Southern Illinois University at Carbondale and according to regular University grading policies and procedures.
4. The applicant must file the application for the Capstone Program no earlier than one term prior to the intended entry into the program and no later than the completion of the first term of attendance at Southern Illinois University at Carbondale. Southern Illinois University at Carbondale students need to submit the application during the term preceding or just following completion of associate degree requirements.

If advance approval is granted to pursue a Bachelor of Science degree through the Capstone Program and the minimum requirements noted above are not met, the approval for admission to the program will be withdrawn.

Additional information concerning "Capstone" admission requirements, application and procedures, can be obtained from the Office of Admissions and Records. Contact: Capstone Program, Southern Illinois University at Carbondale, Office of Admissions and Records, Carbondale, IL 62901. Telephone: 1-618-453-4381 or toll free in Illinois 1-800-642-3531.

SCHOLASTIC STANDARDS

The matter of scholastic standing is quite often of importance to students both while in school and later when they present a transcript of their educational record in support of their application for employment or additional schooling.

At the end of each semester or session of attendance a grade report is prepared for each student showing, in addition to the grades earned that semester or session, what his or her scholastic standing is and what his or her grade point average is for the semester or session, and for his or her over-all record. It is important that students understand the University's system for computing grade point averages and the various grade point average requirements.

Transferred grades are not to be used in determining students' calculated grade point average, except that transfer students who are admitted on probationary status will be required to earn a 2.0 average semester by semester until a total of 12 semester hours has been earned, before students are removed from probation.

The significance of the above should be clearly understood by transfer students when studying the general baccalaureate degree requirements. A 2.00 (C) average is required for the work taken at this University.

In computing students' grade point averages all grades of A, B, C, D, E and F are included in determining the number of calculated hours. Each hour of these grades (1 hour of A is worth 4 grade points) is given its numerical grade points, and the total number of calculated hours is then divided into the total number of grade points to determine the student's grade point average.

Effective with the 1971 summer quarter all earned grades carrying grade point values are considered when computing students' grade point averages, including each earned grade in a repeated course that is taken during the 1971 summer quarter and thereafter. When computing averages through 1971 spring quarter the policy contained in the 1970-71 Undergraduate Catalog is followed.

Students who wish to transfer from one SIUC unit to another, who have less than a C (2.0) grade point average, will be admitted to the new academic unit only if approved by the dean of that unit.

SCHOLASTIC PROBATION AND SUSPENSION SYSTEM

Students are expected to make satisfactory progress toward a degree, certificate, or other approved objective. To ensure that students are making progress, their records are checked against the regulations below.

SCHOLASTIC PROBATION

When a student's cumulative semester average and the cumulative Southern Illinois University at Carbondale average fall below a "C" average (2.0), the student will be placed on scholastic probation. A student on scholastic probation may continue enrollment at Southern Illinois University at Carbondale provided the student does not accumulate six negative points. The student with more than six negative points will not be suspended so long as the term average is "C" (2.0) or above. A student will remain in the category of scholastic probation until the cumulative Southern Illinois University at Carbondale average is "C" (2.0) or higher.

While on scholastic probation students may not enroll for more than 14 hours per semester unless approved to do so by the dean of their academic unit. Other limitations may be established by the academic unit within which the students are enrolled.

CONDITIONAL STATUS

Students admitted on condition are on scholastic probation for the term admitted. In addition, they must enroll for a minimum of twelve semester hours and complete ten semester hours of graded work (A,B,C,D,F). Students admitted on condition who meet the hour requirements will be placed in good standing when they earn a "C" (2.0) average or higher. They will remain on scholastic probation if they earn less than a "C" average but six or fewer negative points. Students who earn more than six negative points will be scholastically suspended.

TRANSFER STUDENTS ADMITTED ON PROBATION

Transfer students admitted on scholastic probation will remain in that status until they have a minimum of 12 semester hours of credit with at least a "C" average at Southern Illinois University at Carbondale. If they earn below a "C" for any session while on scholastic probation, they will be placed on scholastic suspension.

SCHOLASTIC SUSPENSION

Students will be scholastically suspended from Southern Illinois University at Carbondale if they fail to meet the requirements of their conditional or probational status. Students placed on Scholastic Suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken.

BASIC GRADUATION REQUIREMENTS

All students are expected to complete the following basic requirements for the bachelor's degree from Southern Illinois University at Carbondale.

1. A minimum of 120 semester hours of credit in approved courses.
2. The last 30 semester hours must be earned in residence at SIUC, if a student has transferred from another school.
3. An overall "C" average and at least a "C" average in the major. The average requirements apply to work taken at Southern Illinois University at Carbondale. The University does not carry the transfer grade point average.
4. Completion of general studies requirements, upper division unit requirements, and the requirements of the student's major and minor concentration.

The following two special regulations apply to students who transfer from two-year institutions:

1. The credit accepted from accredited two-year institutions is limited only by the provision that 60 semester hours must be taken at Southern Illinois University at Carbondale or at any other approved four-year institution, except that the residence requirement must be met.
2. An associate degree in a baccalaureate-oriented program from an accredited institution will be accepted as meeting all of the General Studies requirements of Southern Illinois University at Carbondale. The degree will not, however, waive specific academic unit or major and minor requirements which may be offered via General Studies courses.

UNIT OF CREDIT

Southern Illinois University at Carbondale converted from the quarter to early semester calendar effective fall 1974. All references to hours of credit in this publication are to semester hours unless otherwise specified. One semester hour of credit is equivalent to one and one-half quarter hours. One semester hour of credit represents the work done by a student in a lecture course attended fifty minutes per week for one semester and, in the case of laboratory and activity courses, the stated additional time.

CLASS STANDING

Southern Illinois University at Carbondale requires students to earn at least 120 semester hours of acceptable credit in order to receive a baccalaureate degree. For academic classification purposes a freshman is a student who has completed fewer than 26 hours; a sophomore, from 26 through 55; a junior, from 56 through 85; and a senior 86 or more.

ACADEMIC LOAD

The normal academic load for undergraduate students is 15-16 hours. The maximum is 18 hours, 21 with a Dean's approval.

The University considers 12 hours as the minimum number to constitute full-time attendance for undergraduate students. This is the figure used for enrollment reporting purposes, by the Illinois State Scholarship Commission, and for Public Law 358 on the undergraduate level. Students attending school under some type of scholarship or assistance program that requires them to be enrolled as full-time students should check with the University office administering the program on this point. Further information on Public Law 358 is available at the Student Work and Financial Assistance Office.

Students on scholastic probation may not take more than 14 hours without approval of the head of their academic unit. Students employed full-time may not register for more than eight hours.

GENERAL STUDIES FOR THE TRANSFER STUDENT

A transfer student with an associate degree in a baccalaureate oriented program from a regionally accredited institution will be accepted as meeting all of the general education (General Studies) requirements of Southern Illinois University at Carbondale. The degree will not, however, waive specific academic unit or major and minor requirements which may be offered via General Studies courses. A transfer student without this degree who expects to graduate from Southern Illinois University at Carbondale must meet the General Studies requirements. These requirements need not be completed prior to transfer but must be fulfilled to meet the general graduation requirements.

General Studies Requirements

The General Studies Curriculum for the baccalaureate degree is divided into five major areas; the requirements in each area are listed below.

Area A Our Physical Environment and Biological Inheritance	9
Area B Our Social Inheritance and Social Responsibilities	9
Area C Our Insights and Appreciations	9
Additional course work from Areas A, B, and/or C	3
Area D Organization and Communication of Ideas	11
Area E Human Health and Well Being	4
Total	45

Students must complete a total of 30 semester hours in Areas A, B, and C. Within each Area they must complete a minimum of 9 semester hours, and they must include course work from at least 3 different disciplines in each Area. The remaining 3 semester hours may include coursework from any one of Areas A, B, or C, or from any combination of these three Areas.

Within Area D, the following are required: 5 semester hours of English composition; 4 semester hours of mathematics; and 2 semester hours of speech or other oral communication as offered in Area D. Some programs and upper division academic units have specific requirements for demonstration of competence in English composition. A student may determine which programs or units have this requirement by referring to college and school requirements listed in Chapter 4 of the University Catalog.

In Area E, the courses taken must include more than one activity or subject. Prospective teachers should also check the section in the University Catalog titled Professional Education Experiences to determine if Health Education coursework should be included in their four hours of Area E requirements.

Area A: Our Physical Environment and Biological Inheritance (GSA)

Area Requirements. A transfer student needs a total of no less than 9 semester hours of acceptable college level work in the area of science. A minimum of three different disciplines must be represented within this 9 hour block.

Courses which regularly count within this area are chemistry, physics, earth science, geology, botany, zoology, biological sciences, physical sciences, physical geography, a basic course in physiology, a basic course in astronomy, a general course in microbiology. (Technical physics may also be counted in this area).

Course-Hours

101	3	Conceptual Insights into Modern Communications Systems: From Hi-Fi Sound to Laser Beams
106	3	Chemistry for Non-Science Majors
110	3	Earth Science
115	3	Biology
125	3	Systems Nature of Our World
202	3	Space Science Astronomy
208	1	Laboratory Experiences in Physiology
209	3	Principles of Physiology
211	3	Geology of National Parks
220	3	Survival of Man
221	3	Survival of Man
230	3	Energy and the Future
240	3	Ecology
302	3	Psychobiology
303	3	Ferns, Trees, and Wildflowers
312	3	Conservation of Natural Resources
313	2	Evolution
314	2	Human Heredity
321	3	Fossils: Keys to Ancient Life and Environment
322	3	Earth's Mineral Resources
323	3	Introduction to Gems and Gem Material
324	3	Water: Our Friend and Enemy
330	3	Weather
356	3	Creativity in Science and Technology
361	3	Acoustics of Music

Area B: Our Social Inheritance and Social Responsibilities (GSB)

Area Requirements. In the area of social studies a transfer student needs no less than 9 semester hours of acceptable work within a minimum of three different disciplines represented.

Courses which regularly count within this area are introductory courses in sociology, psychology, economics, government, political science, global or economic geography, anthropology, American, world, or European history.

Course-Hours

103	3	Geography of the Human Environment
104	3	The Human Experience: Anthropology
105	3	The Contemporary World
109	3	Introduction to Black America
111	3	Economic Development of Western Civilization
112	3	Comparative Economic Systems
125	3	Systems Nature of Our World
135	3	The Third World: The African Model
160	2	Mass Communications in Society
202	3	Introduction to Psychology
203	4	The Sociological Perspective
206	3	Applied Child Development
207	3	Contemporary Political Ideologies
211	3	Contemporary Economics
212	4	Introduction to American Government and Politics
220	3	Survival of Man
221	3	Survival of Man
223	3	The Sexes in the Modern World
231	2	The American Educational Systems
250	3	Introduction to Comparative Government and Politics
255	2	Regional Geography of the United States
270	3	Introduction to International Relations
300	3	Origins of Modern America, 1492-1877
301	3	Modern America from 1877 to the Present
305	3	Personal Finance
310	1	Current Events
321	3	Socialization of the Individual
325	3	Race and Minority Relations
330	3	Language and Behavior
341	3	Marriage as a Social Institution
346	3	Consumer Choice and Behavior
362	3	Science and Technology in Western Societies
378	3	Introduction to American Foreign Policy

Area C: Our Insights and Appreciations (GSC)

Area Requirements. A transfer student needs a total of no less than 9 semester hours of acceptable college level work in the area of humanities. A minimum of three different disciplines must be represented within this 9 hour block.

Courses which regularly count within this area are in art and music appreciation, art and music history, survey courses in humanities, philosophy, oral interpretation of literature, survey literature courses such as poetry, fiction, modern literature, English and American literature.

Note: A student may substitute on an hour-for-hour basis a maximum of 4 semester hours of foreign language counting as one discipline toward the Area C requirement.

Course-Hours

100	2	Music Understanding
101	3	Introduction to Art
102	3	Problems in Philosophy
104	3	Moral Decision
107	2	Life, Leisure, and Recreation
109	3	Introduction to Black America
200	3	Oral Interpretation of Literature
201	3	Introduction to Drama
202	3	Introduction to Poetry
203	3	Introduction to Theater
204	3	Meaning in the Visual Arts
205	3	Innovation for the Contemporary Environment
206	3	Music as a Creative Experience
207	2	Aesthetics
208	3	Elementary Logic
210	3	Introduction to Fiction
212	3	Oriental Humanities

214	3	Oriental Philosophies
216	3	Types of Eastern Religion
217	3	Types of Western Religion
218	3	The Epic of Humanity
221	3	Survival of Man
222	3	Women and Men in the Modern World: Humanities
231	3	Greek Civilization
232	3	Roman Civilization
293	3-9	Studies in Literature
317	3	Recent American Literature
325	3	Black American Writers
330	3	Classical Mythology
335	3	The Short Story
340	3	The Western Cultural Tradition
349	3	The Cinema
351	3	Women in Literature
362	3	Science and Technology in Western Societies
365	3	Shakespeare
371	2	Evolution of Jazz
390	3	Contemporary American Thought
393	3-6	Studies in Literature

Area D: Organization and Communication of Ideas (GSD)

Area Requirements. A transfer student needs a total of no less than 12 semester hours of acceptable college level work in the area of communications. Within Area D, the following are required: 5 semester hours of English composition; 4 semester hours of mathematics; and 2 semester hours of speech or other oral communication as offered in Area D. Some programs and upper division units have specific requirements for demonstration of competence in English composition. Students should consult the University Catalog to determine Area D requirements of the various schools and colleges at SIUC.

Course-Hours

101	3	English Composition
104	2	Grammar in Language
106	0	Elementary Algebra
107	4	Intermediate Algebra
110	2	Economic and Business Statistics
112	2	Basic Concepts of Statistics
113	2	Introduction to Mathematics
117	2	Expository Writing
118	2	Technical Report Writing
119	2	Creative Writing
120	3	Freshman Honors Composition
152	2	Interpersonal Communication
153	3	Public Speaking
199a	1	Library as an Information Source
199b	1	Computers and Communication

Area E: Human Health and Well-Being (GSE)

Area Requirements. A transfer student needs a total of no less than 4 semester hours of acceptable college level work in Health and/or Physical Education. The courses taken must include more than one activity or subject. Prospective teachers should consult College of Education requirements to determine if Health Education coursework must be included in the four hour Area E requirement.

Course-Hours

100	1 to 4	Restricted Physical Education
*101	1 to 14	Aquatics
*102	1 to 10	Physical Fitness
*103	1 to 16	Dance
*104	1 to 34	Individual and Dual Activities
*105	1 to 12	Team Activities
*106	1 to 6	Martial Arts
*114	1 to 4	Intermediate Individual and Dual Activities
201	2	Healthful Living
236	2	Nutritional Ecology
240	2	Human Relations Between the Sexes

*Consult University Catalog p. 94 to determine various activities.

Special Note: Veterans may qualify for Area E credit for their military experience. See section on Evaluation of Credit.

Miscellaneous

The preceding General Studies requirements are not applicable to community college transfer students who have received an associate degree within a baccalaureate oriented program. This degree will automatically satisfy all general education requirements, but will not necessarily satisfy departmental prerequisite lower division courses required of the student's major area.

Students may satisfy some General Studies requirements by making certain approved substitutions of departmental courses for specified General Studies courses.

Any student who feels qualified to take a proficiency examination is eligible to apply. Credit is given to students passing proficiency exams. Credit by proficiency cannot exceed 30 semester hours. Application for proficiency exam should be initiated at the appropriate department.

Proficiency credit granted by other regionally accredited institutions will be recognized. Special regulations apply to proficiency credit earned through the College Level Examination Program (CLEP). See section on Evaluation of Transferred Credit.

APPROVED SUBSTITUTES

The departmental courses which have been approved as substitutions for General Studies courses are listed below. In no case does the departmental course substitute for more credit hours than the credit hours allowed in the comparable General Studies course. Community colleges who have comparable courses are encouraged to submit course descriptions for departmental approval.

General Studies Course	Approved Substitutes
GSA 101-3	One of: Physics 203, 204, 205, 253, 254, 255, or 3 semester hours of technical physics. (The substitution of Physics 253, 254, or 255 is limited to one semester hour.)
GSA 106-3	One of: Chemistry 115, 140, 222, 224, 225 or 4 semester hours of technical chemistry
GSA 110-3	Geology 220
GSA 115-3	One of: Biology 306, 308, 309; Botany 200; Zoology 118
GSA 202-3	One of Physics 203b, 204b, or 205b
GSA 208-1 and 209-3	Phsl 210, Anl 331, or military credit for physiology
GSA 240-3	Biology 307
GSA 314-2	Biology 305
GSA 330-3	Military Credit for Meteorology
GSA unassigned-1 to 12	One to 12 semester hours from University Honors 251a and/or 351a
GSB 103-3	Geography 300
GSB 211-3	One of: Agribusiness Economics 204; Economics 214, 215
GSB unassigned-1 to 12	One to 12 semester hours from University Honors 251b and/or 351b
GSC 100-2	Music 101 or 102 or two hours of 013, 014, 017, 020, 021, or 022
GSC 101-3	Art 100
GSC 204-3	Art 207
GSC 206-3	Music 105a
GSC 293-3	English 209
GSC Foreign Language-4	Foreign Language

(Note: A student may substitute on an hour-for-hour basis to a maximum of 4 hours, provided the student has taken GSC courses totaling 5 hours in two other disciplines. Any additional hours of foreign language may be counted toward the 3 hours of additional course work required in areas A/B/C.)

GSC unassigned-1 to 12	1 to 12 semester hours from University Honors 251c and/or 351c
GSD 101-3	Linguistics 101
GSD 107-4	One of: Mathematics 110, 111, 114, 116, 117, 139, 140, 150, 151, 159, 250, 259, 282, or 4 semester hours of technical mathematics
GSD 117-2	Linguistics 102
GSD 118-2	One of: Administrative Sciences 302, Linguistics 103, or 2 semester hours of technical writing
GSE 101-114-4	Four semester hours from: Physical Education 115, 116, 117, 118, 119, 120, 170
GSE unassigned-1 to 4	1 to 4 semester hours from University Honors 251e and/or 351e
GSE 201-2	Health Education 350
GSE unassigned-1 to 4	ROTC Field Training

A maximum of 15 semester hours of comparable technical coursework can be substituted for General Studies requirements. Some of these substitutions are listed above; others may be possible on individual request to the Dean of General Academic Programs.

EVALUATION OF TRANSFER CREDIT

Transfer credit for students admitted to the University is evaluated for acceptance toward University and General Studies requirements by the Office of Admissions and Records after the admission decision has been made. All credit from a regionally accredited institution, and those in candidacy status, or from an institution that has its credit accepted by the reporting institution in the state including that which is vocational, occupational, technical or terminal is accepted at the time of admission. The Office of Admissions and Records will determine the acceptance of credit and its applicability toward completion of University and General Studies requirements of any transfer work which is used in the admission decision. Although transfer credit from both baccalaureate and non-baccalaureate programs may be considered in the admission process, the acceptance of such credit toward specific program requirements will be made by the department or agency directing the program.

All credit not applied to General Studies requirements or to a specific program will be considered elective credit. The decision will be made depending upon the program the student has completed and the program entered at Southern Illinois University at Carbondale. A student should not expect to receive credit if the transfer work was taken at a school which is not regionally accredited and whose credit is not accepted by the reporting institution in the state.

Completion of an associate degree in a baccalaureate oriented program in an accredited Illinois two year institution provides that the student will: (a) be accepted with junior standing and (b) be considered to have completed the General Studies requirements. Associate degrees earned at other than Illinois two year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented, the same benefits will be extended to those graduates. Credit from an accredited two year institution is limited only by the provision that students must earn at least 60 semester hours of work at Southern Illinois University at Carbondale or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Transcripts and Test Scores

Transfer students who have taken college level work at other institutions must have official transcripts of all work forwarded to the admissions office. An official transcript from each college or university attended must be submitted. Failure to comply with this ruling, failure to indicate all institutions attended, or incorrect information regarding status at the other institutions can result in withdrawal of admission or dismissal for the student.

Transfer students who might qualify for advance standing must have both their ACT profile and their high school transcripts available in the General Academic Programs office. It is the student's responsibility to see that these items are submitted. If credit for a General CLEP exam (except English) appears in another college's transcript, credit will be evaluated at SIUC. For the General English CLEP credit to be evaluated, transfer students must submit official scores of the General Examination of the College Level Examination Program (CLEP). Also, credit possibilities based upon formal service-school training programs, USAFI courses, and military experience will be evaluated upon submitting required papers.

Transfer students may be admitted and their work tentatively evaluated on the basis of a partial or incomplete transcript. If the final and complete transcript is not submitted, the student will not be allowed to register for a second semester of attendance. It should be noted that it is the student's responsibility to request transcripts be sent to the Admissions Office.

NOTE: If the evaluation appears to be in error, the student and/or his or her advisor should contact the Office of Admissions and Records.

Status of Institution

The annual publications entitled Transfer Credit and Practices of Selected Educational Institutions published by the AACRAO and Accredited Institutions of Higher Education published by ACE are used for guidance relative to the status of institutions for credit acceptance purposes.

Non-Regionally Accredited

For students who transfer from non-baccalaureate programs in non-regionally accredited institutions, special regulations also apply.

Occupational work taken from a non-regionally accredited institution presented by a student with an associate degree or equivalent and with a "C" average will be evaluated as stated previously.

There is no provision for the granting of credit, except via proficiency examinations or by individual review by the academic unit the student enters, for students coming from a non-regionally accredited institution without the associate degree or equivalent or with less than a "C" average.

All accepted occupational and technical credit will be examined by the department of the student's intended major to determine its applicability toward meeting degree requirements.

Foreign Schools

All work completed at foreign schools must be evaluated through the Admissions Office. Work is evaluated course by course. Courses must be considered equivalent in content to courses at SIUC before credit can be granted. Non-equivalent credit will be evaluated by the department under question to determine its acceptability. Students who are transferring work from universities outside the U.S.A. are advised to bring with them official and detailed descriptions of those courses.

Undergraduate applicants must submit official transcripts of records from all secondary or middle schools and all universities, colleges, or professional schools attended. Secondary school records are not required from those who have earned a bachelor's degree or the equivalent thereof and are applying to the graduate school. Records must list subjects taken each year, along with the grades or marks received. Each transcript must include a complete list of all courses taken at that institution, the number of weeks and the number of hours per week in lecture and laboratory for each subject, and the grade received. There should be included a description of the grading system of each institution attended and, if possible, a statement of the student's scholastic rank in his or her graduating class.

Extension, Correspondence, Pass/Fail, Advance Standing, Proficiency

Work taken by extension or correspondence at regionally accredited institutions is accepted unconditionally toward the baccalaureate degree. No more than 30 hours may be in correspondence work. Correspondence work must carry a "C" or better.

"D" Work

Hours of "D" will be accepted under the same conditions as all other credits except for correspondence work as above.

Military Experience

Credit for military experience may be granted as follows:

Service of one year or more and honorable discharge allows six semester hours including 2 in physical education, 2 in health education, and 2 in aerospace studies.

Service of six months to a year allows 2 hours in aerospace studies only.

Service of less than six months allows no credit.

Credit will be accepted for DANTES Subject Standard Tests within the limitations enforced for extension and correspondence work. No credit is allowed for college-level GED tests. In evaluating credit possibilities based upon formal service-school training programs, the recommendations of the American Council on Education as set forth in the U.S. Government bulletin, Guide to the Evaluation of Educational Experiences in the Armed Forces, are followed. In order to receive credit for military service, veterans must present a copy of discharge or separation papers to the Office of Admissions and Records.

Preparatory or Developmental Courses

Grades and credit for preparatory or developmental courses will not be used for evaluation purposes.

Repeating Courses and the G.P.A.

For both admission and evaluation purposes grades earned in repeated course work will be averaged.

The University does not calculate an entering transfer grade point average; rather, a transfer's GPA is based solely on work taken at this University.

PRE-PROFESSIONAL PROGRAMS

A program of study called "pre-professional" does not lead to a degree at SIUC. Pre-professional students who will be on campus longer than two years should enroll as double majors and enter the college which grants a degree in the second major. Students without an additional major will be enrolled in the College of Liberal Arts (pre-law and pre-theology majors), General Academic Programs (pre-nursing majors), or College of Science (other health career majors). Pre-professional programs are available in the following areas:

Dentistry (3 or 4 years)	Pharmacy (1 or 2 years)
Law (3 or 4 years)	Physical Therapy (2 or 3 years)
Medicine (including Osteopathic) (3 or 4 years)	Podiatry (3 to 4 years)*
Nursing (3 or 4 semesters)	Theology (2 to 4 years)*
Optometry (3 to 4 years)	Veterinary Medicine (3 or 4 years)

In addition to these pre-professional programs, the University offers professional curricula in dentistry (Edwardsville), engineering, law, medicine, and nursing (Edwardsville).

Pre-professional students may, subject to certain conditions, obtain a bachelor's degree after three years of work (90 semester hours) at SIUC plus one or more years of work in a professional school. During the three years at SIUC, the students must complete all requirements (other than elective hours) for the particular bachelor's degrees they are seeking.

In some cases students may complete requirements for a major at the professional school, but this is permitted only upon the prior approval of the appropriate divisional head. Also, there needs to be completion of at least one year of professional work with acceptable grades in an accredited dental, law, medical, osteopathic medical, or veterinary school.

In all cases, SIUC graduation requirements must be met. Students must make the decision to seek a bachelor's degree before entering the professional school so that questions can be clarified early.

Students should be aware that the Testing Office schedules aptitude and/or admission tests for some professions; pre-registration is necessary for these tests.

*Recommended program not listed.

GENERAL ACADEMIC PROGRAMS

Generally concerned with the freshman and sophomore years, General Academic Programs offers academic support programs designed to enhance opportunities for success for all its students.

General Studies

The general education requirements are satisfied through the General Studies program.

The student is required to have a total of 45 hours in the five areas of General Studies. There is considerable flexibility in the program and the transfer student should have little difficulty in meeting the General Studies requirements.

A student who graduates with an associate degree in a baccalaureate-oriented program from a Class I Illinois two-year institution, or one regionally accredited, is considered to have met the General Studies requirements.

Pre-Major Advisement Center

Pre-Major Advisement is the academic home for all students who wish to explore one, two, or several major fields before choosing their career goals. The Pre-Major Advisement Center provides each student with an experienced academic advisor who knows the requirements for all major programs and who will offer assistance in selecting an appropriate course of study.

University Honors Program

The University Honors Program is designed to enable academically talented students to profit from an association with each other; to achieve maximum flexibility within the framework of the general University curriculum; and to take fullest advantage of the talents and resources in the University.

Inquiries about the program should be addressed to the Director of Honors Opportunities, General Academic Programs.

Special Major

A student whose academic needs are not met by existing baccalaureate programs may arrange a special undergraduate degree program in lieu of a standard curriculum. For guidelines inquire at the office of the Dean of General Academic Programs.

University Studies Program

The University Studies Degree Program exists for those students who wish to take a broader approach to their education by not specializing. Students may work toward either a Bachelor of Arts or Bachelor of Science degree in University Studies.

Students interested in the University Studies Degree Program may pick up the guidelines in the Pre-Major Advisement Center. After ascertaining eligibility for the program the student should then consult with the University Studies advisor.

Center for Basic Skills

The Center for Basic Skills is designed to enhance success for students deficient in basic skills but who demonstrate the potential for college work, and to offer services to students interested in improving their reading, writing and/or mathematics skills. The Center offers courses in the basic skill areas of reading, writing, and mathematics. It also offers individualized instruction and tutoring in these areas. Diagnostic testing is available to assist students in analyzing their basic skills competency. Interested students should direct their inquiries to the Director of the Center for Basic Skills.

Special Supportive Services

This program is designed for students with academic potential who are from culturally and economically disadvantaged backgrounds to provide an academic support system. The identification process focuses on modified admissions criteria that emphasize motivation and require a personal interview to be admitted. The specialized services offered through the program include, but are not limited to, providing: (1) personal and career counseling and guidance; (2) curricular and instructional methods in special classes that enable the participants to complete required and prerequisite courses in a reasonable period of time; (3) a comprehensive tutorial program that will afford program participants an opportunity to study at Southern Illinois University at Carbondale; and (4) other special services that are consistent with the goal of recruiting, retaining, and graduating the target population.

Eligible participants must be citizens of the United States and conform economically to federal income and educational standards unless they are physically handicapped.

SCHOOL OF AGRICULTURE

Majors in the School of Agriculture at SIUC have a new look! Traditionally agriculture majors were almost exclusively farm-reared boys, but the current agricultural student body is not limited to persons from farms nor to men. Urban youth who are concerned about ecology, and improving the environment, about increasingly imminent world-wide food shortage, also find relevance and meaningfulness in curricula in agriculture and forestry. Also, women, from both rural and urban backgrounds, are joining the agriculture and forestry student ranks in rapidly increasing numbers, and now comprise about 30 percent of the undergraduate enrollment. Women and other minority group graduates enjoy very favorable employment opportunities in agriculture.

The curricula of the five departments of the School of Agriculture which are presented on the following pages provide opportunity for students with a wide range of interests and abilities in various combinations of the physical, biological, and social sciences to learn to apply these basic sciences in helping to solve food, fiber, environmental and ecological problems--whether these problems are found in the local community, state or nation, or in an international or global context. Persons trained in agriculture are needed and they can serve mankind as they satisfy themselves. The spectrum of career opportunities for agriculture graduates ranges from the rural producer, through the many processing and distributing occupations, to those who provide services to the agricultural industry.

FACILITIES: The offices, classrooms and laboratories of the School of Agriculture are located in the Agriculture Building. Additional SIU-owned facilities which are devoted to teaching and research in the School of Agriculture include nearly 2,000 acres of farm and timber land, 15,575 square feet of greenhouse space, and a special center devoted to each of six species of livestock.

ACCREDITATION: North Central Association of Colleges and Secondary Schools.

DEGREE OFFERED: Bachelor of Science.

MEMBERSHIP: National Association of State Universities and Land-Grant Colleges.

GRADUATE PROGRAMS: The School of Agriculture has programs leading toward the Master of Science degree. Many of the programs are mentioned in this section, but there are additional options, available only at the graduate level. For more information consult with School of Agriculture, the Graduate School, or the Graduate Catalog.

ORGANIZATIONS: Scholastic and Professional Honoraries: Alpha Zeta (agriculture), Pi Alpha Xi (floriculture and ornamental horticulture), and Xi Sigma Pi (forestry). Special Interests: Alpha Gamma Rho Chapter. Departmental: Agricultural Mechanization Club; Agriculture Economics Club; Agribusiness Economics Graduate Student Club; Agriculture Student Advisory Council; Block and Bridle Club; Forestry Club; N.A.M.A. Club; Plant and Soil Science Club; Society of American Foresters Student Club; Dairy, Horticulture, Livestock, Poultry, and Soil Judging Teams; and Collegiate FFA.

TRANSFER STUDENTS: If agriculture is offered for transfer credit at a regionally accredited associate degree granting college, introductory courses in the various fields may be accepted at SIUC in lieu of equivalent courses. Also, approximately one-half of the credit for occupational and technical courses may be accepted to apply as agricultural electives. (The rest will be accepted by the University as elective credit.) For transfer students wishing to pursue a concentration in one of the agricultural or forestry areas, courses prior to entering SIUC should include physical and biological sciences, social sciences, and humanities. In addition, a course in speech and appropriate sequences in English composition and college algebra should be included. All majors within the School of Agriculture must have work in: mathematics; botany or zoology or biology; chemistry; economics; and speech.

Graduates of occupationally oriented programs should inquire into the possibilities of entering the School of Agriculture under the Capstone Project. This special program is explained in another section of this handbook.

FOR FURTHER INFORMATION:

Chief Academic Advisor
School of Agriculture
Phone 618-453-2469

Chairman of (state major)
School of Agriculture

Admissions Office
Woody Hall
Phone 618-453-4381

Southern Illinois University at Carbondale
Carbondale, Illinois 62901

COLLEGE OF BUSINESS AND ADMINISTRATION

The College of Business and Administration, located in the General Classrooms Building, aims to prepare students to perform successfully in business and other organizations functioning within a changing social, economic, and political environment. Study provides the student with fundamental principles and practices of organizational behavior and allows the mastering of knowledge and skills for effective management. The curriculum provides a broad base for understanding business while simultaneously allowing in-depth study within an area of concentration. Students find that the professional education they receive in the college is desired by business, governmental units, and other public institutions. The advanced curriculum, computer experience, and internship programs provide students not only with a meaningful education but with a means of relating that education to organizations and commerce.

ACCREDITATION: American Assembly of Collegiate Schools of Business (AACBS), and North Central Association of Colleges and Secondary Schools.

DEGREES OFFERED: Bachelor of Science.

Accounting	Business Economics
Administrative Science	Finance
Management	Financial Management
Decision Sciences	Financial Institutions
Business and Administration	Marketing

GRADUATE PROGRAM: The College of Business and Administration offers the Master of Business Administration (M.B.A.), Master of Accountancy (M.Acc.), and Doctor of Business Administration (D.B.A.) degrees.

ORGANIZATIONS: Scholastic and Professional Honoraries: Alpha Kappa Psi (Business), Beta Alpha Psi (Accounting), Beta Gamma Sigma (Business), Phi Gamma Nu (Business), Pi Sigma Epsilon (Marketing), and the Society for Advancement of Management (SAM) and American Marketing Association (AMA). Departmental: Concerned Professional Accountants, American Marketing Association, College of Business and Administration Student Council.

RETENTION POLICY: In order to remain in the College of Business and Administration, university retention standards must be met, and before the junior year (56 hours of credit), a student must have completed with a minimum grade of C at least five of the following seven courses or equivalencies: GSD 101; GSB 202; Mathematics 116 and 117 or 139 and 140; Economics 214, Accounting 221; and Administrative Sciences 208. Transfer students with more than 56 hours upon entering the College of Business and Administration who have not completed at least five of the seven courses with the minimum C grade must do so within one semester in order to remain in the College of Business and Administration. Students who have completed 42 or more hours without completing at least five of the prescribed seven courses will be given a warning of possible termination from the College of Business and Administration.

TRANSFER STUDENTS: The College of Business and Administration will accept college level credit earned in business and economics courses from any accredited two- or four-year institution toward the 120 semester hours required for graduation. However, if such courses are offered at the lower division (freshman and sophomore) level at the institution where taken, only courses shown below will be accepted as substitutions for college required courses.

Courses	Semester Hours
Principles of accounting	6.0
Cost accounting	3.0
Economic principles	6.0
Business/economic statistics	3.0
(where college algebra is a prerequisite)	
Basic computer course ¹	3.0

Additionally, three semester hours of introduction to business and six semester hours of business law (3 hour contract and agencies; 3 hour sales, commercial paper and secured transactions) completed at the lower division level are acceptable in satisfaction of department requirements, in those programs where these courses are required. Nothing in this statement abridges a student's right to satisfy graduation requirements by proficiency examination.

¹ Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course is designed to teach one and only one of the following languages: Fortran, Basic, Cobal, RPG, PL1, and Algol; courses that survey numerous languages are not acceptable. Further, coursework with emphasis on unit record or data processing equipment will not be considered equivalent to the college's computing requirement. Acceptable coursework should have a one-language base and present the student with advanced programming concepts, e.g., loops, arrays, etc.

COLLEGE OF COMMUNICATIONS AND FINE ARTS

The College of Communications and Fine Arts is comprised of eight academic units:

School of Art
Department of Cinema and Photography
Department of Communication Disorders and Sciences
School of Journalism
School of Music
Department of Radio/Television
Department of Speech Communication
Department of Theater

More complete information about the programs offered in each of these academic units is provided in the next section of this catalog.

DEGREES OFFERED: Bachelor of Arts - Art, Cinema and Photography, Music and Theater
Bachelor of Music
Bachelor of Science - Communication Disorders and Science,
Journalism, Radio/Television, and Speech
Communication

GRADUATE PROGRAMS: Master of Arts degree in Journalism, Public Visual Communication, and Speech Communication; Master of Science in Communication Disorders and Sciences, Journalism, and Speech Communication; Master of Music degree in Music; Master of Music Education degree in Music; Master of Fine Arts degree in Art and Cinema and Photography; Doctorate of Philosophy degree in Communication Disorders and Sciences, Journalism, and Speech Communication.

For specific information concerning graduate work, a student should consult the College of Communications and Fine Arts and the Graduate School.

FOR FURTHER INFORMATION

Chief Academic Advisor
College of Communications and Fine Arts
Phone 618-453-4308

Admissions Office
Woody Hall
Phone 618-453-4381

Southern Illinois University at Carbondale
Carbondale, Illinois 62901

COLLEGE OF EDUCATION

Preparation of teachers of all subjects taught in the public schools from pre-school through high school is the special function of the College of Education. In its graduate offerings, however, it broadens its efforts to include professional work for prospective college teachers and several specializations in school administration and supervision.

The College of Education, housed in the Wham Education Building, is the oldest unit of the University, which was originally chartered as Southern Illinois Normal University. Today the College is comprised of nine academic departments: Curriculum Instruction and Media; Educational Leadership; Guidance Educational Psychology; Health Education; Higher Education; Physical Education; Recreation; Special Education; and Vocational Education Studies.

TEACHER EDUCATION PROGRAM APPROVAL: Each of the specializations in teacher education noted in this Counselor's Advisement Catalog has continuing approval from the Illinois State Teacher Certification Board.

ACCREDITATION: North Central Association of Colleges and Secondary Schools and the National Council for Accreditation of Teacher Education.

DEGREES OFFERED: Bachelor of Science.

GRADUATE PROGRAMS: Students can continue on the graduate level of the above programs and in some areas not listed. For more specific information a student should consult with the College of Education and the Graduate School, and read the Graduate Catalog.

ORGANIZATIONS: Scholastic and Professional Honoraries: Kappa Delta Pi, Phi Delta Kappa, Pi Lambda Theta, Pi Omega Pi, Delta Pi Epsilon, Eta Sigma Gamma, and Alpha Lambda Delta. Departmental: Association of Childhood Education International, Council for Exceptional Children, Recreation Club, Student Education Association, Women's Recreation Association, Phi Beta Lambda, PE Majors Club, Vocational Education Studies Graduate Association, Illinois Vocational Home Economics Teachers Association, and Iota Lambda Sigma.

TRANSFER STUDENTS: Students preparing to teach should familiarize themselves with all the specific requirements and prerequisites for teacher certification. Also, admission to the University or to an academic unit does not admit a student to the formal Teacher Education Program (see Transfer Admissions-Eligibility).

One-hundred clock hours of supervised pre-student teaching clinical experiences are required of all Teacher Education candidates. These hours are included in Education 201, 301, 302, 303, and 312, and are primarily planned for the junior and senior professional level of the program. Articulation of courses with Illinois community colleges provides a mechanism for some of the clock hours to be obtained prior to entering SIUC, i.e., equivalents of Education 201, 301, and 303. Prospective students are encouraged to check for articulation of these courses prior to enrollment in similar community college courses.

Students are also required to have the equivalent of a 3 semester hour course on the characteristics of handicapped children and youth, and methodology for teaching the handicapped including the learning disabled. These requirements are also included in EDUC 201, 301, 302 and 303 as well as methods and clinical experiences. For students who attended community colleges which have not articulated this requirement in equivalent courses, a special needs learner course may be taken at SIUC. Further information on articulation of courses may be obtained from the Coordinator of Teacher Education Services, College of Education, Wham Education Building.

Students wanting to transfer occupational credit into the College of Education should consult a program coordinator in the Department of Vocational Education Studies to determine possible applicability of this credit toward meeting degree requirements.

FOR FURTHER INFORMATION:

M. Frances Giles
Coordinator of Teacher Education Services
College of Education
Phone 618-453-2354

Admissions Office
Woody Hall
Phone 618-453-4381

Southern Illinois University at Carbondale
Carbondale, Illinois 62901

SECONDARY EDUCATION

Students who elect to pursue a Bachelor of Science degree in the College of Education, for purposes of preparing to teach in junior or senior high schools, should select academic majors and minors from the areas included in the listing below. Included in the column headed Major are those areas for which Southern Illinois University at Carbondale has approval from the State of Illinois Office of Education and from the State Teacher Certification Board.

<u>Teaching Area</u>	<u>Major</u>	<u>Minor</u> ²
Agricultural Education	X	
Art	X	
Biological Sciences	X	X
Black American Studies		X
Botany ¹	X	X
Business Education	X	X
Chemistry	X	X
Earth Science		X
Educational Media		X
English	X	X
Foreign Languages	X	X
Geography	X	X
Health Education ³	X	
History	X	X
Home Economics Education	X	
Language Arts (English and Reading)	X	
Mathematics	X	X
Microbiology		X
Music	X	X
Occupational Education (Trades and Industries)	X	
Philosophy		X
Physical Education	X	X
Physics	X	X
Physiology		X
Political Science	X	X
Psychology		X
Social Studies	X	
Sociology		X
Speech Communication	X	X
Theater		X
Zoology ¹	X	X

¹ A student with a major in botany or zoology should have a minor in the other in order to meet certification standards for teaching biology at the high school level.

² All minors used for certification purposes must include a minimum of 18 semester hours.

³ Driver Education is offered for certification purposes in the Department of Health Education.

M. Frances Giles
Coordinator of Teacher Education Services
Telephone - 618-453-2354
Location - Wham Building, Room 135

COLLEGE OF ENGINEERING AND TECHNOLOGY

The curricula in the College of Engineering and Technology are designed to provide instruction and to stimulate research. Attention is given to theories and their applications, and to creative and practical aspects, in varying degrees, commensurate with the objectives of the particular program.

Offices and most of the facilities of the College of Engineering and Technology are located in the engineering and technology complex by the Lake-on-the-Campus.

ACCREDITATION: North Central Association of Colleges and Secondary Schools; Accreditation Board for Engineering and Technology (ABET), formerly known as the Engineers' Council for Professional Development (ECPD), for Engineering and Engineering Technology; National Association of Industrial Technology for Industrial Technology.

DEGREES OFFERED: Bachelor of Science - Engineering
Bachelor of Science - Engineering Technology
Bachelor of Science - Industrial Technology

GRADUATE PROGRAMS: Master's degree work is available in a number of specialties in engineering. For specific information concerning advanced degree work a student should consult the College of Engineering and Technology, the Graduate School and the Graduate Catalog.

ORGANIZATIONS: Organizations in which students in the College of Engineering and Technology may participate--the student chapters of various professional and technical societies. Engineering students with high scholastic achievement may be recognized through invitation for membership to the SIUC chapter of Tau Beta Pi, a national engineering honor society.

NEW UPPER LEVEL ADMISSION AND RETENTION REQUIREMENTS: Students interested in any of the programs offered by the College of Engineering and Technology will be coded under a "pre-" category for admission to the University. Admission to the upper level sequences depends upon grades in specified prerequisites. See section under "Admission Policies and Requirements" for details.

TRANSFER STUDENTS: Students should note that the minimum mathematics requirement for baccalaureate degrees in the College of Engineering and Technology will vary, depending upon the curriculum followed. Prospective transfer students should study the following pages carefully.

Students planning to transfer occupational credit toward a degree in industrial technology should consult with the Department of Technology concerning the applicability of such credit toward meeting degree requirements.

Graduates of occupationally-oriented programs should inquire into the possibilities of entering the College of Engineering and Technology under the Capstone Project. Requirements of this special program are mentioned in another section of this handbook.

FOR FURTHER INFORMATION:

Dean
College of Engineering and Technology
Phone 618-453-4321

Admissions Office
Woody Hall
Phone 618-453-4381

Southern Illinois University at Carbondale
Carbondale, Illinois 62901

COLLEGE OF HUMAN RESOURCES

The College of Human Resources offers the following majors leading to the Bachelor of Science degree:

Administration of Justice	Food and Nutrition
Child and Family	Interior Design
Clothing and Textiles	Social Welfare
Family Economics and Management	

The College also offers a Design major leading to a Bachelor of Arts degree.

No specific unit requirements. Consult degree programs in catalog and handbook for specific degree requirements.

COLLEGE OF LIBERAL ARTS

The College of Liberal Arts offers the following majors leading to the Bachelor of Arts and Bachelor of Science degrees. Separate minors are listed and others are possible in most of these areas.

African Studies ¹	English	Paralegal Studies ²
Anthropology	French	Philosophy
Asian Studies ¹	Geography	Political Science
Chinese ¹	German	Psychology
Classical Civilization ¹	Greek ¹	Religious Studies
Classics	History	Russian
Comparative Literature ¹	Japanese ¹	Sociology
Computer Science	Latin ¹	Spanish
Earth Science ¹	Latin American Studies	Speech Communication ³
East Asian Civilizations ¹	Linguistics	Uncommon Languages ¹
Economics	Mathematics	Women's Studies ¹

¹Minor only.

²The program will begin accepting majors in Fall 1983.

³Liberal Arts major, not professional major.

College Requirements Effective Fall, 1978

Students beginning college anywhere Fall 1978 must satisfy the following requirements:

1. University requirements including those relating to General Studies, residency, total hours, and grade point average.
2. Successful completion of requirements in an approved major in the College of Liberal Arts.
3. At least 40 hours of course work at the 300- or 400-level.
4. The Liberal Arts student must complete one year or not less than six semester hours of a foreign language. In addition to General Studies requirements, he or she must complete one course in either mathematics or computer science and one course in English composition. General Studies courses may be used to satisfy the latter requirement only with prior approval of the dean.

Students should consult with an advisor at an early stage in their college career regarding any problems related to these requirements. Similarly, those planning to attend schools of law, health-related or other fields must plan their curriculum carefully and choose courses of depth and rigor. They should be in close contact with their academic and departmental advisors.

COLLEGE OF SCIENCE

The College of Science offers majors, and in most cases minors, leading to the Bachelor of Arts and Bachelor of Science degrees in the following fields of study:

Biological Sciences	Microbiology
Botany	Physics
Chemistry	Physiology
Geology	Zoology
Mathematics	

A minor in Earth Sciences is also offered.

Pre-professional programs are also offered in the following areas:

Dentistry	Pharmacy
Medicine	Physical Therapy
Optometry	Veterinary Medicine
Osteopathy	

Academic Requirements:

None of these general academic requirements may be satisfied by taking the required courses on a Pass/Fail basis.

BIOLOGICAL SCIENCES: Six semester hours in courses offered by the biological sciences departments in the College with the proviso that this requirement cannot be satisfied in whole or in part by General Studies courses, but may be substituted for the latter in meeting the General Studies requirements.

FOREIGN LANGUAGE: The foreign language requirement can be met by one of the following: (a) passing an 8-hour, 100-level sequence in one language or a 5-hour review course in French or Spanish; (b) earning 8 hours of 100-level credit in one language by proficiency examination; or a 5 semester hour review course in French or Spanish; (c) completing three years of one language in high school with no grade lower than C.

A student whose native language is not English may use the native language to satisfy part or all of the science foreign language requirement at Southern Illinois University at Carbondale. If the language is presently taught at SIUC, academic credit may be earned. If the language is not presently taught at SIUC, no credit is given, but partial or full satisfaction of the science foreign language requirement may be granted if the student's major department so recommends. A student whose native language is English but who has learned another language not taught at SIUC may qualify without credit for partial or full satisfaction of the science foreign language requirement under certain circumstances, including formal recommendation by the student's major department and availability of an examiner and examination materials within the Department of Foreign Languages and Literatures. For information, the student should consult the College of Science advisement center.

MATHEMATICS: The mathematics requirement can be met by (a) passing Mathematics 110a,b (3,2) or Mathematics 111 (5) or its equivalent or Mathematics 140 (4), or (b) completing three years of high school mathematics with no grade lower than C and achieving a score on the University's Mathematics Placement Test which allows the student to enroll directly into Mathematics 150 (4).

PHYSICAL SCIENCES: Six semester hours in courses offered by the physical science departments of the College, with the proviso that the requirement cannot be satisfied in whole or in part by General Studies courses, but may be substituted for the latter in meeting the General Studies requirements.

GENERAL REQUIREMENTS: At least 40 hours of the student's 120 hours for graduation must be at the 300 or 400 level. The total may include transfer credit for courses judged by the department involved to be equivalent to its upper division courses. For transfer students, at least 24 of these hours must be in residence, and in the sciences.

SCHOOL OF TECHNICAL CAREERS

B.S. in Technical Careers
Allied Health Careers Specialties
Architectural Technology
Associate Degree in Nursing
Automotive Technology
Aviation Technology
Avionics Technology
Commercial Graphics--Design
Commercial Graphics--Production
Construction Technology--Building
Correctional Services
Dental Hygiene

Dental Laboratory Technology
Electronic Data Processing
Electronics Technology
Law Enforcement
Photographic Production Technology
Mortuary Science and Funeral Service
Physical Therapist Assistant
Radiologic Technology
Respiratory Therapy
Secretarial and Office Specialties
Tool and Manufacturing Technology

The School of Technical Careers, established in 1973, provides both two-year college-level programs and a unique baccalaureate program in technical careers. The associate degree programs qualify students for employment at the semi-professional and technical level in industry, the allied health occupations, and business. A combination of technical courses and general education courses is included in each program to provide a comprehensive preparation for occupational competence.

Scientific and technical changes have increased the possibilities for employment at the technician's level. For every professional person, industry and business require two to seven properly trained technicians.

The School of Technical Careers occupies facilities on the Carbondale campus and on the Carterville campus nine miles east of Carbondale on Old Route 13. Facilities for the aviation technology program are located at the Southern Illinois Airport, four miles west of Carbondale. The University provides shuttle bus service to the classes at the Carterville campus and airport.

Accreditation: North Central Association of Colleges and Secondary Schools; Council on Dental Education of the American Dental Association; American Board of Funeral Service Educators.

Degrees Offered: Bachelor of Science and Associate in Applied Science.

Organizations

Alpha Eta Rho (International Aviation Fraternity), Phi Beta Lambda (International), Sigma Phi Sigma (Mortuary Science), STC Electronics Association, Delta Tau-Dental Lab, Junior SIU American Dental Hygiene Association, and Sigma Phi Alpha (Honorary Dental Hygiene Society).

Transfer Students

Transfer credit is evaluated for acceptance towards University and General Studies (general education) requirements by the Office of Admissions and Records after an admission decision has been made. The evaluation toward satisfying of specific curriculum requirements is done by the department or agency directing the specific curriculum.

The General Studies program at STC includes courses in the social studies (economics, government, and psychology); in the physical sciences (physics, chemistry, and mathematics); and in oral and written communication (speech, English composition, business correspondence, and technical writing). These courses are identical in most cases to those taught on the Carbondale campus, and credit earned in them is transferable if the STC associate degree student decides to continue beyond the two-year program.

For Further Information

Dean
School of Technical Careers
Phone 618-453-4381

Office of Admissions and Records
Woody Hall Phone 618-536-6682

Southern Illinois University at Carbondale
Carbondale, Illinois 62901

THE GRADUATE SCHOOL

The primary concern of the Graduate School is graduate instruction and research at Southern Illinois University at Carbondale. The Graduate School therefore plays an essential role in development of instructional and research programs, in acquisition of funds, and in procurement of facilities necessary to encourage and support research by members of its scholarly community. Through students who meet the Graduate School's high standards of achievement of completing advanced courses of study and through students and faculty members who achieve significant results in their research, the Graduate School makes its contribution to the public welfare of the region, the state, the nation, and a number of other countries.

The Graduate School offers master's degrees through 66 programs, the specialist degree in 4 areas, and the doctoral degree through 22 programs. Under the leadership of a graduate faculty of over 900 members, research and study by over 3,500 graduate students is promoted. In addition, the Schools of Law and Medicine provide graduate students with excellent opportunities to work with faculty members and students in those professions.

Master's degrees are available in the major fields listed below:

Accountancy (M.Acc.)	Guidance & Educational Psychology
Administration of Justice	Health Education
Agribusiness Economics	Higher Education
Agricultural Education & Mechanization	History
Animal Industries	Home Economics Education
Anthropology	Human Development
Art (M.F.A.)	Journalism
Behavior Modification	Latin American Studies
Biological Sciences	Linguistics
Botany	Mathematics
Business Administration (M.B.A.)	Microbiology
Business Education	Mining Engineering
Chemistry and Biochemistry	Music (M.Mus.)
Cinema and Photography (M.F.A.)	Occupational Education
Communication Disorders and Sciences	Philosophy
Community Development	Physical Education
Computer Science	Physics
Early Childhood Education	Physiology
Economics	Plant and Soil Science
Educational Administration	Political Science
Educational Media	Psychology
Elementary Education	Public Affairs (M.P.A.)
Engineering	Public Visual Communications
Engineering Biophysics	Recreation
English	Rehabilitation Administration & Services
English as a Foreign Language	Rehabilitation Counseling
Environmental Design	Secondary Education
Foreign Languages & Literatures	Sociology
French	Special Education
German	Speech Communication/Theater
Spanish	Statistics
Forestry	Zoology
Geography	
Geology	

Specialist degree programs are available in the fields listed below:

Educational Administration	Guidance & Educational Psychology
Elementary Education	Secondary Education

Doctor's degrees are available in the fields listed below:

Anthropology	Mathematics
Botany	Microbiology
Business Administration (Doctor of Business Administration)	Molecular Science
Chemistry and Biochemistry	Philosophy
Communication Disorders and Sciences	Physiology
Economics	Political Science
Education	Psychology
English	Rehabilitation (Doctor of Rehabilitation)
Geography	Sociology
Historical Studies	Speech Communication/Theater
Journalism	Zoology

The Graduate School, as a part of Southern Illinois University at Carbondale, is fully accredited by the North Central Association of Colleges and Secondary Schools, and by various other professional and academic accrediting organizations. Information on the various graduate programs and on admission to the Graduate School can be obtained by writing Graduate School, Southern Illinois University, Carbondale, Illinois 62901. Phone: 618-536-7791.

SCHOOL OF LAW

The Southern Illinois University School of Law was founded in 1973 in response to the need for an additional legal education resource within the state. Increases in the size of the entering class each year should put the total student enrollment at 425-450 by 1985.

The school offers a three-year program leading to the Juris Doctor (J.D.) degree. Concurrent degrees (J.D./M.B.A., J.D./M.B.A., J.D./M.P.A., J.D./Masters in Accountancy) can be arranged. The school received full accreditation from the American Bar Association in August, 1980, and became a member of the Association of American Law Schools in January 1982.

A new and contemporary law building, occupied in 1981, houses classrooms, student lounges, administrative offices and the library, as well as a courtroom and large, in-house clinic facilities.

The faculty and student body of the school are of the highest quality, and its curriculum is designed to inculcate fundamental legal concepts and skills which every lawyer must have and which are the hallmarks of the profession of the law. In addition to the Socratic-casebook method, other teaching methods, including clinical, are utilized as the subject matter requires. The School of Law catalog can be obtained by writing to University Graphics. Information on admission to the SIUC Law School can be obtained by writing to:

Assistant Dean, Admissions
School of Law
Southern Illinois University at Carbondale
Carbondale, Illinois 62901

NOTE: Information on undergraduate preparation necessary for schools of law is listed under Pre-law in this text.

SCHOOL OF MEDICINE

Southern Illinois University School of Medicine was established in 1970 in response to a need in Illinois for increased opportunities for education in the health fields and the more encompassing need for improvements in the health care delivery system. To have the broadest impact possible on health care in central and southern Illinois, the school is deeply engaged in training men and women who will become practicing physicians; it emphasizes continuing education; and it is a center of health care planning and expertise.

The first year is conducted on the campus of SIUC. Students are instructed in the sciences basic to medicine. The remainder of the program, which leads to the M.D. degree, is increasingly clinical in its emphasis, and is offered in Springfield. This split-campus organization allows the School of Medicine to make full use of available resources in both locations.

Available facilities include the extensive and well-equipped laboratories of Southern Illinois University at Carbondale; the public and private clinical facilities of Carbondale; and St. John's Hospital and Memorial Hospital in Springfield, each of about 700 beds. A new medical school building in Springfield was completed in 1974 in time for the first class transferring from Carbondale. Inquiries on admission should be addressed to:

Committee on Admissions
Southern Illinois University School of Medicine
P.O. Box 3926
Springfield, Illinois 62708

NOTE: Information on undergraduate preparation necessary for schools of medicine is listed under pre-medicine in this text.

AEROSPACE STUDIES (AFROTC)

The United States Air Force offers "Aerospace Studies" as a voluntary course program which leads to a commission as an Air Force officer following graduation from the University. All cadets are expected to maintain a satisfactory grade point average while in the program and must be able to give evidence of a bona fide baccalaureate degree from the university as a minimum toward meeting the commissioning requirements. The program is divided into two parts: The General Military Course (GMC) for Freshmen and Sophomores, and the Professional Officer Course (POC) for Juniors and Seniors.

General Military Course (GMC)

As the name implies, this portion is "General" in nature. Uniforms are provided, classes are given, and the cadets are under no obligation to the Government. Upon the successful completion of the sophomore requirements, cadets may voluntarily attend a four week field training course during the summer at an Air Force Base in order to qualify for entry into the Professional Officer Course.

Professional Officer Course (POC)

Acceptance into the last two years of the program (POC) is competitive. It requires the successful completion of a physical examination and of the Air Force Officer Qualifying Test (AFOQT). Newly-entering students at this level (AS 300/400) who have not gone through the General Military Course for freshmen and sophomores are also required to attend a six week field training course during the summer--this is normally the summer following the successful completion of their sophomore year. Such students and graduate students should contact the SIUC AFROTC regarding exceptions to the rule.

Obligations

The GMC cadet is not obligated at any time. Cadets entering the POC must decide whether or not they will accept a commission into the United States Air Force following graduation. If these conditions are accepted, then the POC does incur a military obligation.

Payments: The GMC cadets receive no payments other than that received while in field training at the end of their sophomore year. The POC cadets receive a monthly tax-free subsistence allowance (call AFROTC for the current amount) and are also paid for their field training activities.

Scholarships: The Air Force ROTC four-, three-, and two-year scholarships are available to qualified cadets. The Illinois State ROTC Scholarship is available to qualified students enrolled/accepted in Air Force ROTC at SIUC.

Veterans Commissioning Program

Qualified enlisted personnel enrolled in an SIUC resident center may enter the two-year (POC) AFROTC program at Carbondale. Enlistees must meet the following criteria: (1) Graduate within two years of entry in AFROTC at SIUC (full-time status); (2) U.S. citizen; (3) Under 33 years of age; (4) Have a minimum of 180 days of active duty; (5) Have qualifying scores on the AFOQT; (6) Be able to attain an honorable discharge with a favorable reenlistment code; (7) Have a qualifying physical examination; (8) Process successfully through your nearest AFROTC detachment. Points of clarification for this program may be addressed by mail or phone to the Carbondale AFROTC Office. The Veterans Commissioning Program for AFROTC is available to all services within the Department of Defense (Army, Navy, Air Force, Marines).

Special Note to Counselors:

This program is available to all majors. We do, however, have a special need for Engineering, Mathematics, Chemistry, Computer Science, and Physics majors.

ARMY MILITARY SCIENCE (ARMY ROTC)

Army Military Science Studies is a voluntary course sequence leading to a commission as an officer in the United States Army (active army, army reserves, or national guard). Students who complete the advanced course of studies six or more months prior to attaining a bachelor's degree, reservists and guardsmen participating in the simultaneous membership program, and students with guaranteed reserve forces duty can be commissioned in the United States Army Reserve or National Guard prior to graduating through the early commissioning program. Students entering active duty as reserve or regular Army officers must have a bachelor's degree. All students must meet University academic requirements and maintain satisfactory academic progress to enter or remain in the ROTC program. Enrollment in the basic course (freshman and sophomore years) is unrestricted and carries no military obligation.

Acceptance into the advanced course (junior and senior years, 300-level) is contingent on meeting academic, basic course, physical, age, test score (ACT/SAT or Cadet Evaluation Battery), citizenship prerequisites. Students may enter the advanced course anytime prerequisites are met regardless of their academic year in school. Students studying in any field of study at Southern Illinois University at Carbondale are eligible to enter the Army Military Science program. Students on Army ROTC scholarship and students in the advanced course do incur a military obligation. The nature of the obligation varies depending on whether the student is on scholarship, is receiving an early commission in the National Guard or Reserves, or goes on active duty. All Army Military Science scholarships and advanced course students are paid a monthly tax free subsistence allowance.

Any student, graduate or undergraduate, with at least two academic years remaining at the University, may participate in the advanced program. Students completing a six-week basic leadership practicum and veterans, students completing the basic course, and National Guard and United States Army Reserve personnel may enter the advanced course without completing the basic course. Advanced course students attend a six-week advanced camp between their first and second years of their advanced course. This training is conducted at an army post. Students are paid travel pay to and from camp, furnished room and board, and paid while at camp.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for Army Military Science scholarships for one, two, and three years. These scholarships pay full tuition, fees, books, and a \$100 per month subsistence allowance. Any Southern Illinois University at Carbondale student who has at least two academic years of school remaining and who can meet advanced course prerequisites may compete for any Army ROTC scholarship. Illinois residents, who are enrolled in ROTC, can compete for state Army ROTC scholarships, which pay tuition and other selected expenses.

In addition to courses offered for academic credit, the Army Military Science program sponsors extracurricular activities. The Ranger Company and Color Guard is open to all Army ROTC students and the Pershing Rifles, a national honorary society, is open to selected Army Military Science cadets.

ENTRY LEVEL JOB TITLES

WHAT DO I DO WITH A DEGREE IN _____?

The Career Planning and Placement Center at SIUC has compiled a list of titles associated with the first job recent graduates obtained in business, industry or government. We have listed the titles for each non-teaching major.

The list is intended to be used to assist teachers, counselors, faculty members and students faced with the question: "What does one do with a degree in _____?"

The Career Planning and Placement Center hopes that this listing will encourage both counselors and potential SIUC students to seek additional information about career opportunities prior to matriculation and for students to utilize the services of the SIUC Career Planning and Placement Center once they are enrolled.

For additional information, please contact the following placement consultants:

Agriculture	Michael Murray
Business and Administration	Marilyn DeTomas
Communications and Fine Arts	Michael Murray
Cooperative Education	Staff
Education	Jane Tierney
Engineering and Technology	Susan Rehwaldt
Human Resources	Valerie Brew Parrish
Liberal Arts	Barbara Costello
Science	Marilyn DeTomas
School of Technical Careers	Barbara Costello

Richard Gray Acting Director
Telephone - 618-453-2391
Woody Hall, B-204

ACCOUNTING

College of Business and Administration
(Bachelor of Science)

Dr. Bart A. Basi, Chairperson
Telephone - 618-453-2289
General Classrooms Bldg., Rm. 232

Accounting is the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information. Such information is required and used by parties external to the business and by management within the business.

The curriculum is designed to prepare a student to assume a professional position as a certified public accountant or to join the management team in industry and government. The courses provide a basic understanding of all phases of accounting and permit the student to elect courses to prepare for a particular area of interest.

The Department of Accountancy has a working relationship with several national public accounting firms with whom the department arranges for student work experience during the spring semester of their senior year. Students work off campus in the field of accounting under the direction of the cooperating public accounting firms. While most of the work assignments are in the St. Louis and Chicago areas, some student have been assigned, at their request, in other geographical districts as far away as New Jersey and Texas. The student receives valuable work experience, a salary, and three hours of university credit under the internship program. Interns are selected by the Department.

First Year		Fall	Spring
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
*GSB 202	Introduction to Psychology	3	-
GSC-3 or	Humanities (select) ¹ or Human Health and		
GSC-2	Well Being (select) ¹	3 (2)	-
GSC	Humanities (select) ¹	-	3
*GSD 101 &	English Composition & Writing (select) ¹	3	2
117, 118 or 119			
*MATH 116-5 or	Finite Mathematics & Algebra or		
139-3	Finite Mathematics	3 (5)	-
*ADSC 208	Interpretation of Business Data	-	4
		15 (16)	15
Second Year		Fall	Spring
*ACCT 220, 230	Financial, Managerial Accounting	3	3
*CS 212 or	Intro. to Computer Programming (PL-I) or		
EDP 217	Computing for Business Admin. (Fortran)	-	3
*ECON 214, 215	Economics, Macro, Micro ²	3	3
*MATH 117-5 or	Finite Mathematics & Calculus or Short		
140-4	Course in Calculus	4 (5)	-
GSA	Science (select) ¹	-	3
*GSD 153 or 152	Public Speaking or Interpersonal		
	Communication	3 (2)	-
GSC-3 or GSE-2	Humanities (select) ¹ or Human Health and		
	Well Being (select) ¹	3 (2)	-
GS- ---	General Studies Electives	-	3
		16 (15)	15

*Required course for a major in Accounting.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Econ 214 or 215 counts toward GSB credit.

Accounting As A Major

Neither minor nor foreign language required.

Graduate degree available: MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year.

Many of these courses are prerequisites to later requirements.

The Department is recognized by the American Assembly of Collegiate Schools of Business (AACSB).

See the College of Business and Administration listing for their retention policy. Furthermore, a 2.000 grade point average is required in SIUC accounting courses for graduation. A "C" or better is required in all prerequisite accounting courses. This does not apply to Accountancy 220, the prerequisite for Accounting 230.

Representative First Job Titles: Accountant-I, Accounting and Fiscal Admin. Career Trainee, Revenue Collection Officer-I, Supervisory Auditor, Grants and Contract Officer, Assistant Controller, Plant Accountant, Retail Controller Trainee, Plant Accounting-Internal Auditor, Junior Systems Analyst, Accounting Auditor, Accountant, Financial Management Trainee, Internal Auditor, Accounting Management Trainee, Property Accountant, Budget Accountant, Systems Accountant.

ADMINISTRATION OF JUSTICE
College of Human Resources
(Bachelor of Science)

Joe Coughlin
Divisional Executive Officer
Telephone - 618-453-5701
Faner Building, 4th Floor

The Bachelor of Science degree with a major in Administration of Justice meets the career objectives of students interested in law enforcement, corrections, juvenile services and other roles in social and criminal justice.

Four areas of concentration--Law Enforcement, Correctional Program Services, Correctional Management, and Juvenile Justice and Delinquency Prevention--have been delineated to give a range of choices suitable for most students preparing for careers in a field of criminal justice. The policy of this Center, however, is to fit course requirements to the given student's career objectives if none of these concentrations are appropriate. In such situations, the student will be required to take the core courses, and, under the supervision of his or her advisor, develop an appropriate battery of courses in lieu of one of the four areas of concentration.

Field internship placement is an important element in the Administration of Justice program and internships are encouraged for qualified students.

First Year

		Fall	Spring
GSA	Sciences (select) ¹	3	-
GSB 202	Introduction to Psychology	-	3
GSB 203	Sociological Perspective	4	-
GSB 212	Intro. to American Government & Politics	4	-
AJ 200	Introduction to Criminal Behavior*	-	3
GSC 102 or 104	Problems in Philosophy or Moral Decision	-	3
GSE	Human Health and Well Being (select) ¹	1	1
GSD 152 or 153	Interpersonal Communication or Public Speaking	-	2 (3)
GSD 101	English Composition	3	-
GSD 107	Math (Statistics suggested)	-	4
or 112 and 113		15	16 (17)

Second Year

		Fall	Spring
AJ 201	Introduction to Criminal Justice System*	3	-
GSC	Humanities (select) ¹	3	3
GSA	Sciences (select) ¹	3	3
GSD 118	Technical Report Writing	2	-
GSE	Human Health and Well Being (select) ¹	1	1
AJ	Classes from AJ Core or AJ Concentration	-	6
GSA/B/C	Elective	3	-
Elective	Free Elective	-	3
		15	16

*Required courses for a major in Administration of Justice.

¹To determine what courses may be taken to satisfy the general education requirements, please refer to the section, General Studies. The specific general studies courses listed are highly recommended, not a requirement of the Administration of Justice Department.

The preceeding 2-year outline can be altered to meet the needs and abilities of the students.

Third and Fourth Year

The last two years of a student's program concentrate on specific career or professional objectives. The student must take the Division Requirement of 15 semester hours, plus meet the requirements of a chosen concentration from the following areas: Law Enforcement, Juvenile Justice and Delinquency Prevention, Correctional Program Services, Correctional Management or a concentration specifically designed and agreed upon with the student's faculty advisor to meet the career objectives of the student.

Administration of Justice As A Major

Graduate Degree program available.

No foreign language requirement.

A minor (secondary concentration) is required and is selected in consultation with the student's academic advisor. For a secondary concentration, the student selects 18 hours of courses constituting a systematic sphere of study relevant to his or her interests and needs. For a minor, students must fulfill the appropriate department's requirements.

Multi-disciplinary staff with backgrounds in Sociology, Psychology, Education, Law and Rehabilitation provide instruction. Most of the staff also have practical experience in the Criminal Justice System.

Outstanding faculty, nationally recognized program, guest speakers, special programs, international emphasis, and career oriented experience available.

Representative First Job Titles: Crime Investigator, Patrolman, Juvenile Delinquency Studies Specialist, Alcoholism & Drug Addiction Counselor, Delinquency Preventor, Community Planning & Redevelopment Officer, Morale Studies Specialist, Child Care Worker, Penology & Correction Researcher, Probation & Parole Administrator, Rehabilitation & Resettlement Analyst, Social & Behavioral Researcher, Outreach Director, YMCA-YWCA Director & Program Specialist, Prisoner Classification Interviewer, Public Aide, Caseworker.

ADMINISTRATIVE SCIENCES

College of Business and Administration
(Bachelor of Science)

Dr. William Vicars
Acting Chairperson
Telephone - 618-453-3307
General Classrooms Bldg, Rm 215

Undergraduate students in the Department of Administrative Sciences may select one of two areas of specialization which lead to the Bachelor of Science degree. Both programs of study emphasize the development of analytical capabilities and decision making skills for application in a wide variety of managerial settings.

The two specialized areas in which a student can choose a course of study are management and decision sciences. Both areas are designed to familiarize the student with current concepts and practices that can be used by managers to improve the performance of organizations and their members.

Approximately 20 percent of the total course work required for graduation is devoted to the administrative sciences specialization. These courses are in addition to the core required of all undergraduates in the College of Business and Administration. Students also are encouraged to extend their specialized academic interests through interdisciplinary course work in such fields as mathematics, computer sciences, sociology, psychology, and other University programs which have an administrative orientation.

Students frequently combine training in another specialty field with a program in administrative sciences in order to prepare themselves to assume managerial responsibility. While most graduates enter positions in business, many find administrative careers in such fields as aviation, corrections, agriculture, recreation, food services, health, government, and higher education.

First Year		Fall	Spring
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
*GSB 202	Introduction to Psychology	-	3
GSC	Humanities (select) ¹	6	3
GSC-3 or GSE-2	Humanities (select) ¹ or Human Health and Well Being	3 (2)	-
*GSD 101 & 117, 118 or 119	English Composition & Writing (select) ¹	3	2
*MATH 116-5 or 139-3	Finite Mathematics & Algebra	3 (5)	-
*ADSC 208	Interpretation of Business Data	-	4
		15 (16)	15
Second Year		Fall	Spring
*ACCT 220, 230	Financial, Managerial Accounting	3	3
*CS 212 or EDP 217	Introduction to Computer Programming (PL1) or Computing for Business Admin. (Fortran)	-	3
*ECON 214, 215	Economics, Macro and Micro ²	3	3
*MATH 117-5 or 140-4	Finite Mathematics and Calculus or Short Course in Calculus	4 (5)	-
GSA	Science (select) ¹	-	3
*GSD 153 or 152	Public Speaking or Interpersonal Communication	3 (2)	-
GSC-3 or GSE-2	Humanities (select) ¹ or Human Health and Well Being (select) ¹	3 (2)	-
GS- ---	General Studies Electives	-	3
*Required course for a major in Administrative Sciences.			

¹ To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

² Econ 214 or 215 counts toward GSB credit.

Administrative Sciences As A Major

Neither minor nor foreign language required.

Graduate degree available: MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is recognized by the American Assembly of Collegiate Schools of Business (AACSB).

See the College of Business and Administration listing for their retention policy.

The Society for the Advancement of Management in cooperation with the Department of Administrative Sciences sponsors annually Career Day to acquaint students with opportunities in business and government.

Representative First Job Titles: Budget Administrator, Business Operations Analyst, Benefits Analyst, Community Relations Officer, Employee Relations Officer, Employment Interviewing Officer, Labor Relations Officer, Management Analyst, Manpower Planning Officer, Manpower Resources Studies Officer, Organization Planner, Placement Assistant, Public Opinion Polls Officer, Public Relations Officer, Recruiting Officer, Wage-Salary Administrator, Workman's Compensation Officer, Budget Examiner, Claims and Benefits Examiner, Contract Negotiator, Credit Union Examiner, Management Representative, Management Supervisor.

The Agricultural Economics/Agribusiness curriculum is designed to prepare women and men for attractive careers in agriculture, industries that are related to agriculture, or to continue their professional development by entering graduate school. A few career opportunities include farm credit positions with banks, farm management and operation, grain merchandising, livestock buying and selling, farm supplies, research, public relations, and extension work.

In agricultural economics/agribusiness, courses are offered in the areas of farm management, agribusiness management, farm credit, agricultural prices, agricultural marketing, cooperatives and agricultural policy.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
*GSA 106	Chemistry for Non-Science Majors	-	3
GSA	Physical Sciences ²	3	-
GSB	Social Science ²	-	3
GSC	Humanities ²	-	3
*GSD 101, 118	English Composition, Technical Report Writing	3	2
*GSD 107	Intermediate Algebra ³	4	-
GSE	Human Health and Well Being ²	1	1
*ABE 204	Introduction to Agricultural Economics ⁴	-	3
ANI 121	Science of Animals that Serve Mankind	3	-
ANI 122	Production and Processing Practices	1	-
		15	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
*GSA 115	Introductory Biology	3	-
GSB	Social Studies ²	3	-
GSC	Humanities ²	3	3
GSD 110	Economic and Business Statistics	-	2
*GSD 153	Public Speaking ⁵	-	3
GSE	Human Health and Well Being ²	1	2
*ECON 214, 215	Economics - Macro, Micro	3	3
	Electives ⁶	3	3
		16	16

*Required courses for a major in Agricultural Economics/Agribusiness.

¹There are two options available under the economics specialization: (a) 40 hours in agriculture which provides a broad training in agriculture or (b) 32 hours in agriculture which allows a secondary concentration in either economics or business.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³Mathematics IIOA, B or III (College Algebra and Trigonometry) are highly recommended.

⁴ABE 204 can be substituted for GSB 21I (Introductory Economics).

⁵GSD 152 may be substituted.

⁶Accounting, quantitative methods, or agriculture recommended. Two courses in accounting are desirable.

Third and Fourth Years

The last two years of the agricultural economics/agri-business curriculum are devoted to advanced courses in agricultural economics, agri-business, economics and business to meet the goals and objectives of the study. About 20 hours of free electives are included in the last two years of this curriculum.

Agribusiness Economics (Agricultural Economics/Agri-business) As A Major

No minor required. No foreign language required. Internships are encouraged for the summer semesters. Masters degree available in Agricultural Economics and Ag Services. Class size 20-50; senior year 15-30. Department is sponsor for special workshops on campus. Students attending junior colleges without an agricultural program can easily complete an Agricultural Economics/Agri-business major in two years.

Representative First Job Titles: Agricultural Commodities Inspector, Agricultural Commodity Warehouse Examiner, Agricultural Economist, Agricultural Management Specialist, Agricultural Marketing Specialist, Agricultural Market Reporter, Agricultural Program Specialist, Agricultural Industry's Representative, Market Research Analyst, Farm Manager, Industrial Relations Specialist, Industrial Hygienist, Industrial Property Management Specialist, Agricultural Manager, Agribusiness Technician, Agricultural Engineer, Soil and Water Conservationist, Agriculture Business Manager, Feed and Seed Sales, Customer Service and Production Trainee, Livestock Buyer, Sales and Product Development Trainee.

Completion of a four-year course of study in agricultural education leads to certification as a teacher of agricultural occupations. Men and women students have the opportunity to specialize in one of the following areas: agriculture business, agriculture mechanization, ornamental horticulture, plant production, soil conservation, parks and recreation, forestry, conservation, or animal production.

Employment opportunities for agricultural education majors are excellent not only as teachers in high schools and community colleges, but the breadth of training also provides educational background needed for adult training programs provided by high schools, colleges, extension service, and industry. Many foreign agricultural positions are open to persons with this training. This curriculum also provides the educational background sought by many agribusiness firms for sales and management training positions.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 115	Biology	3	-
GSA 106	Chemistry for Non-Science Majors ¹	-	3
GSB	Social Studies (select)	-	3
GSC	Literature (select) ²	-	3
GSD 101, 118	English Composition, Technical Report Writing ²	3	2
GSD 107	Intermediate Algebra ⁴	4	-
GSE 201	Healthful Living ²	2	-
ABE 204	Introduction to Agricultural Economics ³	-	3
Anl 121	Science of Animals that Serve Mankind	3	-
Anl 122	Production and Processing Practices	1	-
	Electives	-	2
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	-
GSB 202	Introduction to Psychology ²	3	-
GSD 212 or 300			
or 301	American Government or US History ²	-	3
GSC	Humanities (select)	-	3
GSD 153	Public Speaking ²	3	-
GSE	Human Health and Well Being ²	1	1
PLSS 200	Principles of Field Crop Production	-	3
Agriculture	Agricultural electives ⁵	3	3
	Elective	3	3
		<u>16</u>	<u>16</u>

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives and electives.

¹ A student with background and interest in Chemistry is recommended to take a higher level of Chemistry.

² Courses required for certification include GSB 202; GSB 212, 300 or 301; GSD 101, GSD 117, 118 or 119; GSD 153; GSE 100-114 (2 hrs.) GSE 201; and one additional English course from GSC, GSD or department.

³ ABE 204 can be substituted for GSB 211a (Introductory Economics) or vice versa.

⁴ College Algebra recommended.

⁵ Student should consult with agriculture counselor regarding options available for agriculture electives.

Important - see requirements for entrance into Formal Teacher Education Program.

Agricultural Education As A Major

A student may select one of eight agricultural speciality options for major emphasis. Information about these specialties may be secured from the department.

No minor required. No foreign language required. Approximate class size 30. Masters degree available in Agricultural Education. Methods and student teaching will be stressed junior and senior years. Courses in both the School of Agriculture and the College of Education are included.

AGRICULTURAL EDUCATION AND MECHANIZATION

(Agricultural Information)

School of Agriculture

(Bachelor of Science)

Dr. James Legacy, Chairperson

Telephone - 618-536-7733

Agriculture Building, Room 115

The Agriculture Information specialization is intended for those students who plan to be involved in agricultural education programs in extension, post-secondary educational institutions, and industry. Persons desiring to be certified for public secondary teaching should follow the Agricultural Education major.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
*GSA 115	Biology	3	-
*GSA 106	Chemistry for Non-Science Majors ¹	-	3
GSB	Social Studies	-	3
GSC	Humanities ¹	3	3
*GSD 101	English Composition	3	-
GSD107	Intermediate Algebra ²	-	4
GSE	Human Health and Well Being	1	1
ABE 204	Introduction to Ag Economics ³	3	-
AnI 121	Science of Animals that Serve Mankind	3	-
AnI 122	Production and Processing Practices	1	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
		<u>17</u>	<u>16</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science ⁴	3	-
GSB 202	Introduction to Psychology	3	-
GSB	Social Studies	-	3
GSC	Humanities	-	3
GSD 153	Public Speaking	3	-
GSE	Human Health and Well Being	1	-
PLSS 200	Plant and Soil Science Course	-	3
Agriculture	Agriculture Electives	3	3
	Electives	3	3
		<u>16</u>	<u>15</u>

Third and Fourth Years

The last two years of a student's program concentrates on specific professional objectives and electives.

¹A student with background and interest in Chemistry is recommended to take a higher level of Chemistry.

²College Algebra recommended.

³ABE 204 can be substituted for GSB 211 (Contemporary Economics).

⁴To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

Agricultural Educational and Mechanization, Agriculture Information

No minor required. No foreign language required. Approximate class size 30. Master's degree available in Agricultural Education and Mechanization.

Representative First Job Titles: Assistant County Extension Advisor; Product Education Specialist; Assistant Manager (Farm Supply Business); Agricultural Industry Representative; Agricultural Manager; Sales Representative.

The Agricultural Education and Mechanization curriculum with a specialization in agricultural mechanization is designed to prepare individuals for attractive careers in agriculture and related businesses, in industries that are related to agriculture, or to continue their professional development by entering graduate school. A few career opportunities include farm management careers, grain elevator operations, farm supply sales, public relations, operational positions in the processing industry, power use advisors with electric power supplying agencies and companies, selling field testing farm equipment and product education positions, and service representatives for the various power and machinery companies. Due to the extensive mechanization and technology in agriculture and the related industries employment opportunities are excellent.

Courses in agricultural mechanization are offered in construction and repair processes; agricultural power and machinery; agricultural electrification; agricultural buildings and structures; soil and water conservation; and agricultural materials processing, handling, and storage.

First Year		Fall	Spring
*GSA 115	Biology	3	-
*GSA 106	Chemistry for Non-Science Majors	-	3
*ABE 204	Introduction to Ag Economics	-	3
GSB	Social Studies ¹	-	3
GSC	Humanities ¹	3	3
*GSD 101, 118	English Composition, Technical Report Writing	3	2
GSE	Human Health and Well Being ¹	2	2
*Anl 121	Science of Animals that Serve Mankind	3	-
*Anl 122	Production and Processing Practices	1	-
		15	16

Second Year		Fall	Spring
PHYS 203 a,b	College Physics	3	3
GSB	Social Studies ¹	3	-
GSC	Humanities ¹	-	3
*GSD 107	Intermediate Algebra ²	4	-
GSD 153	Public Speaking	-	3
*ACCT 210	Accounting Principles and Control	-	3
PLSS 200	Principles of Field Crop Production	3	-
	Elective	3	3
		16	16

Third and Fourth Years

The last two years of the individual's program concentrate on work that best leads the individual toward his or her professional goals. The individual will complete 55 semester hours in agriculture of which 27 hours are in agricultural mechanization and 28 semester hours of approved free electives. Elective courses may be taken in agriculture or supporting areas.

*Required or strongly recommended courses for agricultural mechanization majors.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²GSD 107 (Intermediate Algebra) is a minimum requirement. Math 110a-3 and 110b-2 (College Algebra and Trigonometry) are strongly recommended.

Agricultural Educational and Mechanization (Agricultural Mechanization As A Major)

Individuals do not need to have an agricultural background to enter the agricultural mechanization program.

Internships are encouraged for the summer terms. No minor required. No foreign language required. Masters degree available. Class size 20-50; senior year 15-30. Department sponsors special workshops on campus.

Representative First Job Titles: Farm Machinery Sales and Service, Power Use Advisor, Agricultural Commodities Inspector, Agricultural Commodity Warehouse Examiner, Agricultural Management Specialist, Agricultural Industry's Representative, Market Research Analyst, Farm Manager, Industrial Relations Specialist, Industrial Property Management Specialist, Agricultural Manager, Agribusiness Technician, Agricultural Engineer, Soil and Water Conservationist, Agriculture Business Manager.

General Agriculture is intended for those students who are seeking broad backgrounds in agriculture. It is the major of greatest flexibility within the School of Agriculture and is probably the best major for students who have not chosen a professional area for emphasis. Many agriculture students are graduated with a major in General Agriculture. Some students start as General Agriculture majors, later identify an area in which they want to specialize and transfer to the appropriate major for that specialty. Other students start in one of the specialized areas and later decide to transfer to and be graduated from General Agriculture. Possible specializations within the General Agriculture major include: Production Agriculture, Environmental Studies, Foreign Agriculture, and Country Living.

Students in this major gain basic preparation for many of the agricultural careers: general farming, agricultural services, agricultural extension, agricultural communication, agricultural business, agricultural industry and agricultural production.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
CHEM 140a,b	Chemistry	4	4
GSB	Social Studies (select) ¹	-	3
GSD 101	English Composition	3	-
GSD 117, 118,			
or 119	Writing (select one) ¹	-	2
GSD 107	Intermediate Algebra	4	-
GSE	Human Health and Well Being (select) ¹	1	1
ABE 204	Introduction to Agricultural Economics ²	-	3
AnI 121 and 122	Science of Animals that Serve Mankind	3	-
AnI 122	Production and Processing Practices	1	-
BOT 200	General Botany ³	-	3
		16	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA, B or C	Elective (select) ¹	-	3
GSB	Social Studies (select) ¹	3	-
GSC	Humanities (select) ¹	3	3
GSD 153	Public Speaking	-	2
GSE	Human Health and Well Being (select) ¹	-	2
PLSS 240	Soil Science	4	-
PLSS 220 or 200	General Horticulture or Principles of Field Crop Production	-	3
ZOO 118	Introductory Zoology ³	3	-
	Electives	3	3
		16	16

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Agribusiness Economics 204 substitutes for GSB 211 (Contemporary Economics) as well as counting as hours toward the major.

³Botany 200 and Zoology 118 substitute for GSA requirements.

Agriculture As A Major

Major requirements include a minimum of 8 semester hours of courses in each of the three departments within the School of Agriculture, plus additional elective courses in agriculture or forestry to complete a total of 40 semester hours.

No minor required; no foreign language required.

ALLIED HEALTH CAREERS SPECIALTIES

School of Technical Careers
(Associate in Applied Science)

Arch Lugenbeel, Supervisor
Telephone - 618-536-6682
STC Building, Room 18E

This program is designed to prepare specialists in combinations of two of the following areas: clinical respiratory therapy, clinical medical laboratory technology and clinical radiologic technology. The program leads to an associate degree.

It is a highly individualized program which prepares graduates for service in medical facilities where they may be employed as a single or multi-competent technician.

In addition to meeting University admission requirements, students must also contact the program supervisor above for details on admission to the program. Enrollment in the program is limited due to the limited clinical facilities.

In general, students take a common core of coursework applicable to all three specialties. This includes courses such as Physiology, Human Anatomy, English Composition, Speech, College Algebra, and other specialty-related studies.

Clinical studies in medical laboratory techniques, respiratory therapy, and radiographic techniques are built upon this basic coursework. The majority of the clinical portion of the program will be completed off-campus in health care facilities. With a third year of study and clinical experiences, students are eligible to take a National Registry Examination.

Students in the clinical portion of the program should expect to spend about \$100 per clinical specialty area for uniforms, materials, and insurance, in addition to tuition and fees.

For specific information on the program and its specialized application, contact the supervisor.

Instruction, demonstration, and consultation are provided in companion animals, dairy, horse, livestock and poultry production, animal behavior, meats, pets, and animal hygiene. Courses are offered in all phases of animal production and management including meats, animal hygiene, reproduction, animal breeding and nutrition.

The student has the opportunity to select courses in other areas of agriculture or related fields, such as business, communications, or physical sciences. This selection allows the student to include in his or her studies the agronomic, agricultural economic, and agricultural engineering phases of agriculture, pre-veterinary medicine, or business as related to animal production.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Zoology, Botany, or Biology	4	-
GSB	Social Studies	3	3
GSC	Humanities	-	3
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Writing	-	2
GSD 107	Intermediate Algebra	-	4
GSE	Human Health and Well Being	1	1
Anl 121	Science of Animals that Serve Mankind	3	-
Anl 122	Production and Processing Practices of the Animal Industry	1	-
AG	Agriculture Elective	-	3
		15	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 208, 209	Principles of Physiology and Lab	4	-
GSB	Social Studies	-	3
GSC	Humanities	3	3
GSD 153	Public Speaking	-	3
CHEM 140a,b	Chemistry ¹	4	4
Anl 215	Introduction to Animal Nutrition	2	-
GSE	Human Health and Well Being	2	-
Ag	Agriculture Elective	-	3
		15	16

¹Substitutes for GSA Chemistry.

Third and Fourth Years

Courses during the last two years of a student's program concentrate on requirements, electives in Animal Industries, other departments in the School of Agriculture as well as free electives.

Animal Industries As A Major

Many students work at the various livestock centers and the laboratories to help defray the cost of education as well as to gain valuable experience. An intern course also enables a student to work in special areas (away from campus) and receive credit. Graduates are prepared for employment in many phases of animal agriculture. The department maintains close contact with the industry and assists in placing graduates in permanent positions.

No minor required. No foreign language required. Most of teaching staff have advanced degrees (Ph.D.). Graduate programs are available. Class size 20-60; senior year 10-30.

Representative First Job Titles: Animal Husbandman, Animal Physiologist, Animal Breeding Expert, Animal Ecologist, Animal Taxonomist, Swine Herdsman, Animal Industry Representative, Animal Hygiene Specialist, Farm Manager, Dairy Cattle Manager, Agricultural Economist, Market Analyst, Product Evaluator, Cost-Benefit Analyst, Animal Control Biologist, Livestock Manager, Animal Nutrition Specialist, Dairy Products Tester, Poultry Manager.

ANIMAL INDUSTRIES
(Science and Pre-Veterinary Medicine Option)
School of Agriculture
(Bachelor of Science)

Dr. A. W. Young, Chairperson
Telephone - 618-453-2329
Agriculture Building, Room 127

Instruction, demonstration, and consultation are provided in companion animals, dairy, horse, livestock and poultry production, animal behavior, meats, pets, and animal hygiene. Courses are offered in all phases of animal production and management, including meats, animal hygiene, reproduction, animal breeding and nutrition.

The student has the opportunity to select courses in other areas of agriculture or related fields, such as business, communications, or physical sciences. This selection allows the student to include in his or her studies the agronomic, agricultural economic, and agricultural business as related to animal production.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies	-	3
Biology	(core suggested)	4	4
GSD 101	English Composition	3	-
GSD 117, 118 or 119)	Writing	-	2
GSE	Human Health and Well Being	1-2	1-2
Anl 121	Science of Animals that Serve Mankind	3	-
Anl 122	Production and Processing Practices of Animal Industry	1	-
Math 110a,b	College Algebra and Trigonometry ¹	3	2
	Agriculture Elective	-	3
		<u>15-16</u>	<u>15-16</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies	3	3
GSC	Humanities	-	3
GSA 208, 209	Principles of Physiology and Lab	4	-
CHEM 222a,b	Introduction to Chemical Principles ²	4	4
PHYS 203a,b	College Physics ³	3	3
PHYS 253a,b	College Physics Lab	1	1
Anl 215	Introduction to Animal Nutrition	2	-
	Agriculture Elective	-	3
		<u>17</u>	<u>17</u>

¹Substitutes for GSD 107 (Math).

²Substitutes for GSA 106 (Chem).

³Substitutes for GSA 101 (Physics)

Third and Fourth Years

In addition to completing General Studies Requirements and Chemistry, courses during the last two years of a student's program concentrate on requirements and electives in Animal Industries, other departments in the School of Agriculture as well as free electives.

Animal Industries As A Major

Many students work at the various livestock centers and the laboratories to help defray the cost of education as well as to gain valuable experience. An intern course also enables a student to work in special areas (away from campus) and receive credit. Graduates are prepared for employment in many phases of animal agriculture. The department maintains close contact with the industry and assists in placing graduates in permanent position.

No minor required. No foreign language required. Most of teaching staff have advanced degrees (Ph.D.). Graduate programs are available. Class size 20-60; senior year 10-30.

Representative First Job Titles: Animal Husbandman, Animal Physiologist, Animal Breeding Expert, Animal Ecologist, Animal Taxonomist, Swine Herdsman, Animal Industry Representative, Animal Hygiene Specialist, Farm Manager, Dairy Cattle Manager, Agricultural Economist, Market Analyst, Product Evaluator, Cost-Benefit Analyst, Animal Control Biologist, Livestock Manager, Animal Nutrition Specialist, Dairy Products Tester, Poultry Manager.

The undergraduate program in anthropology at SIUC gives students a broad and well-rounded exposure to the field. A variety of courses is offered in all four sub-fields, that is, archaeology, physical anthropology, linguistics, and socio-cultural anthropology. The core of the program is a set of four courses that introduce the student to the basic question and issues of the sub-fields and the methods and techniques used to address them.

This core is supplemented by specialty courses, such as those on societies in different geographic areas, economic and ecological anthropology, the anthropology of law, conservation archaeology, applied anthropology, human evolution, human genetics and demography, folklore, religion, language and culture, primate behavior, and origins of civilization. Several applied or "hands-on" courses are available for students to get actual experience in the laboratory and the field, as well as a practicum in museum studies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ¹	2	-
Elective		3	-
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Science (select) ¹	3	-
GSC or FL	Humanities (select) ¹ or Foreign Language ²	3(4)	3(4)
GSD	Speech (select) ¹	2(3)	-
GSE	Human Health and Well Being (select) ¹	-	2
MATH or CS	or Computer Science ³	3	-
ANTH 300A,B	Physical & Linguistic Anthropology	3	3
ANTH 300C	Archaeology	-	3
		<u>14(16)</u>	<u>14(15)</u>

¹See General Studies for the Transfer Student.

²Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the three extra hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead. Students intending to pursue a graduate education should realize that a foreign language would likely be required for graduate school admission; for these students two years of foreign language is recommended.

³One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

Anthropology As A Major

Resources for anthropology students include a large university library, a university museum, a fully equipped computer center, and the Center for Archaeological Investigations which carries out numerous projects. In addition, the anthropology department has physical anthropology, archaeology, and linguistic laboratories.

The anthropology faculty has a wide array of field and research experience in all sub-fields of the discipline. Faculty have conducted field research in Latin American and the Caribbean, Africa, Eastern and Southwestern United States, South and Southeast Asia, and the Pacific Islands. Some also have applied their anthropological knowledge to solving practical problems in various parts of the world.

Opportunities exist for undergraduates to get involved in anthropology outside the classroom. An archaeology field school is offered every summer, and students often work on varied field and laboratory research projects. An undergraduate Anthropology Club sponsors such activities as trips to nearby archaeological sites, lectures, and the annual picnic. In addition, visiting anthropologists from other universities present talks, and the SIUC faculty and graduate students regularly give informal lunchtime lectures about their current research.

Representative First Job Titles: Human Biology & Physical Characteristics Researcher, Operations Research Analyst, Population Studies Anthropologist, Archival Worker, Archaeological Anthropologist, Exhibit Preparation Expert, Museum Engineer, Ethnohistorian, Ethnolinguistician, Rehabilitation & Resettlement Personnel, Systems Evaluator, Safety Personnel, Statistician, Sales Representative, Work Environment Officer, Anthropogeographical Researcher, Ethnologist.

The technically-trained person is able to work in the area between the draftsman who simply produces drawings of another's ideas and the licensed architect who creates, and will find a variety of positions available to him or her within the architectural profession.

A graduate of this program will have basic knowledge and skills for entry into this broad field, where he or she may advance into such specific areas as project coordination, specification writing, architectural inspection, structural and mechanical engineering and architectural design.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
STC 102	Technical Writing	-	2
STC 105a,b	Technical Mathematics	4	-
STC 107a,b	Applied Physics	-	4
GSD 153	Public Speaking	-	3
Arch 111	Architectural Drafting	7.5	-
Arch 112	Architectural Graphics	3.5	-
Arch 113	Architectural History	2	-
Arch 124	Architectural Drawings I	-	6
Arch 125	Architectural Design I	-	4
		<u>20</u>	<u>19</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
Arch 214	Architectural Drawings II	6	-
Arch 215	Architectural Design II	4	-
Arch 216	Architectural Engineering I	4	-
Arch 217	Architectural Systems	2	-
Arch 218	Architectural Surveying	3	-
Arch 224	Architectural Drawings III	-	6
Arch 225	Architectural Design III	-	4
Arch 226	Architectural Engineering II	-	4
Arch 229	Architectural Estimating	-	2
Arch 220	Architectural Specifications	-	2
		<u>19</u>	<u>18</u>

A minimum of 76 hours of credit must be completed for graduation.

Architectural Drafting As A Major

Instruction is provided by graduate architects, some of whom are licensed.

Field trips to nearby cities to study historical and contemporary architecture are made each year. Allowance should be made in the student's budget of approximately \$300 for equipment and supplies.

Technical courses taught by faculty with years of experience give you an understanding of the architectural and design professions and other components of the building industry, the design and production process, and the historical, mathematical, and physical factors involved. The program covers building materials, systems, and construction, as well as preparation and interpretation of technical communications such as architectural drawings, models, and architectural delineations.

Representative First Job Titles: Architectural Technician, Inspector, Specification Writer, Coordinator, Work Supervisor, Estimator.

ART
 (Drawing)
 (Painting)
 (Printmaking)
 (Sculpture/Foundry)
 (Ceramics/Glassblowing)
 (Metalsmithing/Blacksmithing)
 (Fibers/Weaving)
 (General Studio)
 (Art History)
 College of Communications and Fine Arts
 (Bachelor of Arts)

L. Brent Kington, Acting Director
 Telephone - 618-453-2571
 Allyn Building, Room 109
 Patricia B. Covington, Head
 of Undergraduate Studies
 Telephone- 618-453-2032
 Allyn Building, Room 5

Undergraduate offerings in art provide introductory and specialized experiences. The courses of study offered, leading toward the Bachelor of Arts degree in art, require 58 hours of art in art history, 52 hours of art in general studio, and 72 hours of art in all other specializations.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
ART 100 a & b	Basic Studio	3	3
ART 107	Fundamentals of Art	3	3
ART 207	Survey of Art	-	3
ART 110	Intro to Drawing I	3	-
ART 120	Intro to Drawing II	-	3
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Expository, Technical Report or Creative Writing	-	2
GSC	Humanities ¹	3	-
GSB	Social Science ²	-	3
GSE	Human Health and Well Being	-	2
		15	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
ART 200	Intro to Drawing III	3	-
ART 300	Intermediate Drawing	-	3
ART 201	Beginning Painting	-	3
ART 203	Beginning Sculpture	3	-
ART 346	Survey of 20th Century Art	3	-
ART 204, 205 or 206	Beginning Ceramics, Metals, or Fibers	-	3
GSA	Science	3	-
GSD	Mathematics	-	4
GSB	Social Science Course ²	3	-
GSD	Speech	-	2
EDUC 201	Teacher's Role in Public School Education ³	1	-
		16	15

¹ Certain specializations require particular courses in the GSC area; art education requires a literature course and art history requires GSC 207, Aesthetics, plus 8 hours of French or German. All specializations in the School of Art receive 6 hours of GSC substitution for Art 100 a or b and Art 207.

² Students whose major specialization is art education must fulfill certain requirements in General Studies. They must have a C average in GSD 101 and 117, 118 or 119 and also in their GSC literature course. From GSB they must select GSB 202, psychology, and GSB 300 or 301, American history, or GSB 212, American government. From GSC they must select GSC 201, Human Health and Development and 2 hours of activity.

³ For Art Education specialization only.

Art As A Major

Graduate degree available (MFA).

The School is staffed by a faculty of artist-teachers, many of whom have national reputations resulting from their participation in major exhibitions and invitational shows throughout the country. The School is accredited by the National Association of Schools of Art. The student can expect to receive training in all of the applied and theoretical branches of visual art. The Richert-Ziebold Trust Award of \$25,000 is awarded every year to the outstanding graduating senior or seniors from the School of Art.

Transfer students will be able to transfer 36 hours of art from a community college. Work above 36 hours will be evaluated on the basis of a portfolio. Senior institution hours in art will be given transfer credit and evaluated for placement with the School of Art at SIUC.

Representative First Job Titles: Art Apprentice, Studio Assistant, Ceramic Sprayer, Archival Worker, Displays Artist, Exhibit Preparator, Archaeological Digging Officer, Manufacturer's Representative, Purchasing Specialist, Pattern & Mod Maker, Arborer, Arboriculturist (Ornamental Hort.), Archaeological Assistant, Ceramics Specialist, Activities Director, Rehab., Painter, Lithographic Artist, Weaving Expert, Museum Curator.

ART EDUCATION

(School of Art)

College of Education

College of Communications and Fine Arts

(Bachelor of Arts or

Bachelor of Science)

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In addition to teaching art in elementary and secondary schools, art majors are employed in museums, private art schools, college art departments, and art galleries. Electives, courses outside of degree requirements, are provided so that the student may encounter additional areas of concern beyond his or her concentration.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	3	-
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition	3	-
GSD 117, 118, or 119	Writing (select) ¹	-	2
GSD 153	Public Speaking	-	2
GSE 201	Healthful Living ²	2	-
GSE	Human Health and Well Being ²	-	1
ART 100a,b	Basic Studio	4	4
ED 201	Teacher's Role in Public School Education	-	1
		<u>18</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 212 or 300 or 301	American Government or U.S. History 1492-1877 (select) ²	-	4 (3)
GSB 202	Introduction to Psychology ²	3	-
GSC	Literature (select) ²	3	-
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ²	1	-
ART	Studio	4	4
ART 107	Fundamentals of Art	2	-
ART 207	Survey of Art History	-	4
		<u>16</u>	<u>16 (15)</u>

¹Refer to section General Studies for the Transfer Student.

²Courses required for certification include GSB 202; GSB 212, 300 or 301; GSD 101; GSD 117, 118, or 119; GSD 153; GSE 100-114 (2 hours); GSE 201; and one additional English course from GSC, GSD or department.

Art Education As A Major

Students may pursue Art Education within either the College of Communications and Fine Arts, or the College of Education.

A student interested in the major should become aware of the requirements for entrance into the Teacher Education Program.

The objective of the Automotive Technology program at the School of Technical Careers is to provide students with an opportunity to obtain a solid foundation of knowledge, experience and skills that will assist in job entry and career advancement in many facets of automotive service and related industries.

Instruction in the Automotive program is geared to a thorough presentation of fundamental concepts and reinforced with practical applications of those concepts with structured laboratory activities, and service and diagnosis of live automobiles. In a vast majority of the courses all units studied will be working or operational units and dynamic testing of the units is an integral part of the course.

During the first year, students are required to enroll in a series of core courses which provide them with the opportunity to obtain and develop those skills and technical information considered essential to all service technicians. During the second year students may choose any four of eight possible areas. In most cases, these courses will deal with advanced instruction in areas covered in the core courses.

The associate degree can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra instructional educational experience.

Upon the completion of the associate degree and at the option of the student, the student may continue additional automotive studies for part or all of a third year in areas in which courses are available.

The student should expect to spend about \$400 for a basic tool kit consisting of both domestic and metric tools and supplies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
AUT 101	Automotive Engines & Fuel Systems Lab	4.5	-
AUT 121	Basic Automotive Engines & Fuel Systems Theory	3	-
AUT 103	Brakes and Chassis Lab	4.5	-
AUT 123	Brakes and Chassis Theory	3	-
AUT 115	Related Shop Lab	2	-
GSD 101	English Composition	3	-
AUT 105	Engine Electrical Lab	-	4.5
AUT 125	Engine Electrical Theory	-	3
AUT 107	Drive Trains Lab	-	4.5
AUT 127	Drive Trains Theory	-	3
STC 105a	Technical Mathematics	-	2
GSD 153	Public Speaking	-	3
		<u>20</u>	<u>20</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
AUT *	Automotive Lab & Theory	15	15
STC 107a,b	Applied Physics	4	-
STC 108	Chemistry of Fuels and Lubricants	-	2
STC 102	Technical Report Writing	-	2
		<u>19</u>	<u>19</u>

*200-Level Automotive Courses: With the aid of an advisor and availability of courses, the student must choose 4 areas of study (2 per semester) from the following list of courses.

	<u>Lab</u>	<u>Theory</u>
Automatic Transmissions	AUT 201-4.5	AUT 221-3
Automotive Power Accessories	AUT 203-4.5	AUT 223-3
Automotive Air Conditioning	AUT 204-4.5	AUT 224-3
Advanced Fuel and Emission Systems	AUT 205-4.5	AUT 225-3
Advanced Brakes and Chassis	AUT 207-4.5	AUT 227-3
Advanced Engine	AUT 208-4.5	AUT 228-3
Advanced Electrical Systems	AUT 209-4.5	AUT 229-3
Diesel Fuel and Electrical Systems	AUT 210-4.5	AUT 230-3

Entry Level Jobs: Automotive Service Technician, Service Writer, Assistant Service Manager, Shop Foreman, Service Representative, Automotive Parts Counter Person, Apprentice Truck Service Technician.

Representative First Job Titles: General Auto Mechanic, Alignment Specialist, Engine Overhaul Specialist, Automakers' Production Foreman, Automakers' Dealer's Representative, Auto Maintenance Foreman.

Upon graduation, the student receives the Associate in Applied Science degree, and depending on his or her area of concentration, is qualified to obtain the Federal Aviation Agency (FAA) Airman Airframe and Powerplant certificate as an A & P maintenance technician. Students may also take flight classes as electives in this program or any other. See "Flight" section for details.

Skilled technicians are in demand in the rapidly-growing aviation industry, both in airlines and general aviation. The industry demands people who possess a wide range of knowledge and ability provided by general education as well as special technical training.

The student studies reciprocating and jet powerplants, hydraulics, fuel systems, ignition-starting systems, carburetion and lubricating systems, instruments, and powerplant testing in coordinated classroom and laboratory work. The program is fully accredited by the Federal Aviation Administration.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
STC 105a	Technical Mathematics	2	-
AT 110	Aircraft Structure--Fabrication and Repair	-	4
AT 111	Material and Metal Processing	7	-
AT 112	Aircraft Electricity	4	-
AT 113	Aircraft Instruments and FAR	4	-
AT 203	Aerodynamics and Weight and Balance	-	5
AT 204	Aircraft Hydraulics	-	4
AT 205	Cabin Environment & Jet Transport Systems	-	5
		<u>20</u>	<u>20</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology ¹	3	-
GSD 153	Public Speaking	-	2
AT 210	A & P Electrical and Ignition Systems	7	-
AT 211	Reciprocating Powerplant	5	-
AT 212	Carburetion, Lubrication and Fuel	5	-
AT 214	Propellers	-	4
AT 215	Powerplant Testing	-	5
AT 216	Jet Propulsion Powerplant	-	6
Elective	Social Science	-	2
		<u>20</u>	<u>19</u>
		<u>Summer*</u>	
AT 225	Aircraft Inspection	6	
AT 230	Powerplant Inspection	6	
		<u>12</u>	

*A minimum of 79 hours satisfies requirements for the associate degree; students who wish to qualify for the FAA A & P licenses are required to take an additional eight weeks of summer school.

¹Recommended, not required.

Aviation Technology As A Major

Aviation technology facilities are located at the Southern Illinois Airport, three miles NNW of the Carbondale campus and three miles ENE of Murphysboro, Illinois.

Students entering the aviation technology program for the first time must purchase a basic tool kit which costs approximately \$300.

The Aviation Technology Department is acclaimed by many branches of the aviation industry and government agencies as the best school in the nation. It prepares students on animated training panels representing the modern jet transports such as: Boeing 707 and 727, and Douglas DC9 aircraft.

Executives in the aviation industry constitute an advisory committee which serves the program.

Representative First Job Titles: A&P Mechanic, Maintenance Technician.

Technicians skilled in aviation electronics, or avionics, are needed for the development, installation, and maintenance of the sophisticated systems required for modern aviation.

The student in this program can take advantage of the combination of courses available through the Aviation Technology and Electronics Technology programs. He or she will learn basic AC and DE electricity, vacuum tubes and transistors, aircraft integrated flight systems, airborne radar systems, aircraft flight controls and instrumentation systems, transmitters and receivers, and aircraft communications and navigation systems.

The graduate will be able to install, maintain, test, and repair airborne communications and navigation systems and radar equipment. He or she will find opportunities for employment with the airlines, in general aviation, and in aircraft manufacturing.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
STC 105a,b	Technical Mathematics	4	-
STC 118	Applied Calculus	-	2
Elt 101	DC-AC Circuit Analysis	5	-
Elt 102	Electronics Circuit Theory	-	5
Elt 111	DC-AC Circuit Analysis Lab	6	-
Elt 112	Electronics Circuit Lab	-	6
Elt 121	Electronics Devices	3	-
Elt 122	Communications Fundamentals	-	3
		<u>21</u>	<u>18</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
AT 113	Aircraft Instruments and FAR	5	-
GSB	Social Science	4	-
Ata 233	Aircraft Communication & Navigation Systems	5	-
Ata 234	Avionics Laboratory II	6	-
Ata 235	Flight Control Systems Theory	-	6
Ata 236	Avionics Laboratory III	5	-
Ata 237	Avionics Logic Circuits & Pulse Systems Theory	-	5
Ata 238	Avionics Laboratory IV	-	5
		<u>20</u>	<u>21</u>

Summer*

GSD 153	Public Speaking	3
Ata 304	Avionics Radar System Theory	4
Ata 302	Avionics Laboratory V	3
Ata 303	FCC Regulations	2
		<u>12</u>

*To meet federal and industry requirements, the student should plan to take these additional courses offered as a post-associate specialty.

A minimum of 80 hours credit is required for the associate degree.

Representative First Job Titles: Line Avionic Repairperson, Shop Repairperson, Electronic Maintenance Foreman, Company Representative.

This curriculum is designed to give the student a broad, yet intensive, education in the biological sciences preparatory for various professions, especially the teaching of biology at the secondary level. The work may be taken in either the College of Science or the College of Education. The science requirement for this concentration is the same in both colleges.

The biological sciences curriculum consists of courses selected from General Studies Area A and the Departments of Botany, Microbiology, Physiology, and Zoology. A student selecting biological sciences as his or her concentration does not need to take a secondary concentration.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
ZOOL 220a,b	Diversity of Animal Life	4	4
GSB	Social Studies (select) ²	-	3
GSC	Humanities (select) ²	-	3
GSD 101	English Composition	3	-
GSD 117, 118, or 119	Writing (select) ²	-	2
*BOT 200, 201	General Botany and Lab	-	4
*MATH 111	College Algebra and Trigonometry	5	-
GSD 153	Public Speaking	3	-
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212, 300, or 301	American Government or U.S. History	4 (3)	-
GSC	English elective in Humanities	-	3
GSC	Humanities (select) ²	3	-
GSE	Human Health and Well Being	2	2
Bot 204, 205	Plant Diversity and Lab	-	4
*CHEM 224, 225	Introduction to Chemical Principles & Lab	7	-
GSB 202	Introduction to Psychology	-	3
*PHSL 210	Introductory Human Physiology	-	4
EDUC 201	Teacher's Role in Public School Ed.	-	1
		<u>16 (15)</u>	<u>13</u>

*Approved substitutes for General Studies.

¹See also the program under the College of Science.

²Refer to the section General Studies for the Transfer Student.

Biological Science As A Major

Foreign Language is not required for students pursuing the Bachelor of Science in Education degree.

For specific major requirements see the Undergraduate Catalog.

Courses required for certification include: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics OR GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118 or 119, Writing; GSD 153, Public Communication; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; One additional English course (GSC, GSD, or departmental).

This curriculum is designed to give the student a broad, yet intensive, education in the biological sciences preparatory for various professions, especially the teaching of biology at the secondary level. The work may be taken in either the College of Science or the College of Education. The science requirement for this concentration is the same in both colleges.

The biological sciences curriculum consists of courses selected from the Departments of Botany, Microbiology, Physiology, and Zoology.

First Year		Fall	Spring
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Expository, Technical Report, or Creative Writing	-	2
*FL	Foreign Language ⁴	4	4
*MATH 110a,b	College Algebra and Trigonometry ^{3,4}	3	2
ZOOL 220a,b	Diversity of Animal Life (Invertebrate, Vertebrate)	4	4
GSB	Social Studies (select) ²	3	-
GSC	Humanities (select) ²	-	3
GSE	Human Health and Well Being (select) ²	-	1
		17	16
Second Year		Fall	Spring
GSD 152, 153 or 104	Speech	2 (3)	-
*BOT 200, 201	General Botany and Lab ⁴	4	-
*BOT 204, 205	Plant Diversity and Lab ⁴	-	4
*CHEM 224, 225 or CHEM 222a,b	Introduction to Chemical Principles ⁴	7 (4)	- (4)
GSB	Social Studies (select) ²	3 (6)	3 (-)
GSC	Humanities (select) ²	-	2
GSE	Human Health and Well Being ²	-	3
PHSL 210	Introductory Human Physiology ⁴	-	5
		16 (17)	17 (18)

Third and Fourth Year

The last two years of a student's program should include completion of 3 additional hours in GSA, GSB, or GSC, and the following courses in biological sciences: Microbiology 301, 302 (7 hours), any two of Biology 305, Biology 306, Biology 307, Biology 308, or Biology 309 (6 hours), and any electives in biological sciences at the 400-level, for 6 hours. Chemistry 340 is recommended.

*Approved substitutes for General Studies.

¹See also the program (B.S.) under the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³Math III substitutes for Math 110a,b.

⁴Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

Biological Sciences As A Major

Although advanced work (M.A. or Ph.D.) has become a basis for professional preparation in the biological sciences, many technician positions exist in industry for people who cannot immediately pursue graduate study--or who do not care to do so. Pharmaceutical houses, chemical companies and laboratories of all types require such personnel. Large medical centers actively recruit the undergraduate degree holder. In addition, all industrial firms selling chemicals or biologicals have continuous openings for sales and management trainees with general science backgrounds.

No minor required.

Representative First Job Titles: Venereal Disease Investigator, Aide-Veterinary Clinic, Pharmaceutical Sales, Fishery Bacteriologist, Quality Control Specialist, Medical Laboratory Assistant, Medical Bacteriologist, Researcher-Chiropractic College, Nutrition Specialist, Plant Protection Scientist, Technical Marketing Representative, Research Technician, Technical Library Operator, Biological Warfare Officer, Technical Sales, Soil Conservation Technician, Soil Bacteriologist, Commodities Inspector, Food and Drug Inspector.

Botany is a broad science that includes many specialties. For example, a person who has a quantitative turn of mind and enjoys mathematics or chemistry might find genetics or biochemistry exciting, whereas a person who has always enjoyed outdoor activity might be attracted to systematic botany or ecology. Plant Morphology might appeal to a person who enjoys observation and interpretation, but plant physiology might have more appeal for a person who prefers experimentation. The exact courses that should be selected by students who wish to prepare for a career in botany or for graduate study will vary somewhat depending upon the area of plant science in which they intend to specialize.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212	Introduction to American Government & Politics ²	-	4
GSD 101	English Composition ²	3	-
GSD 117, 118, or 119	Writing ²	-	2
*MATH 111	College Algebra and Trigonometry	5	-
GSE 201	Healthful Living ²	2	-
GSE	Human Health and Well Being (select) ²	1	-
*BOT 200, 201	General Botany & Lab	4	-
*CHEM 224, 225	Introduction to Chemical Principles & Lab	-	7
GSC	Humanities (select) ²	-	3
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology ²	-	3
GSB	Social Studies (select)	3	-
GSC	English elective in Humanities (select) ²	3	-
GSC	Humanities (select)	3	3
GSD 153	Public Speaking ²	-	2
GSE	Physical Education Activities (select) ²	-	1
ED 201	Teacher's Role in Public School Education	-	1
BOT 204, 205	Plant Diversity & Lab	4	-
BOT	Electives	3	6
		<u>16</u>	<u>16</u>

*Approved substitutes for General Studies.

¹Should have a minor in Zoology. See also the program under the College of Science.

²The following courses are required for teacher certification: GBS 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics OR GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, Expository Writing or GSD 118, Technical Writing; GSD 153, Public Communication; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; one additional English course (GSC, GSD, or departmental).

Botany As A Major

For specific major requirements see the Undergraduate Catalog.

Foreign language is not required for students pursuing the Bachelor of Science in Education degree.

Botany is a broad science that includes many specialities. For example, a person who has a quantitative turn of mind and enjoys mathematics or chemistry might find genetics or biochemistry exciting, whereas a person who has always enjoyed outdoor activity might be attracted to systematic botany or ecology. Plant Morphology might appeal to a person who enjoys observation and interpretation, but plant physiology might have more appeal for a person who prefers experimentation. The exact courses that should be selected by a student who wishes to prepare for a career in botany or for graduate study will vary somewhat depending upon the area of plant science in which he or she intends to specialize.

First Year		Fall	Spring
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Writing (select)	-	2
*FL	Foreign Language ³	4	4
*MATH 110a,b	College Algebra and Trigonometry ³	3	2
GSB	Social Studies (select) ²	3	-
GSC	Humanities (select) ²	-	3
GSE	Human Health and Well Being (select) ²	-	1
*BOT 200, 201	General Botany and Lab ³	4	-
BOT 204, 205	Plant Diversity and Lab ³	-	4
		17	16
Second Year		Fall	Spring
GSD 152	Interpersonal Communication	2	-
*CHEM 224, 225 or 222a,b or 140a,b			
	Introduction to Chemical Principles ^{3,4}	7 (4)	- (4)
GSB	Social Studies (select) ²	3 (6)	3 (0)
GSC	Humanities (select) ²	-	3
GSE	Human Health and Well Being ²	1	2
BOTANY 304	Plant Classification	3	-
*BIOLOGY 307	Environmental Biology	-	3
BOTANY	Elective	-	4
		16	15 (16)

*Approved substitutes for General Studies.

¹See also the program under the College of Education (Bachelor of Science).

²To determine what courses may be taken to satisfy this program, please refer to the section, General Studies for the Transfer Student.

³Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

⁴Students have two options for chemistry: Option A is 140a,b; Option B is Chemistry 224, 225 (or the two-semester version, Chemistry 222a,b) with 340 and 341 to follow in the third or fourth year. Option B is recommended for those interested in plant physiology or graduate school.

Third and Fourth Year

The last two years of a student's program should include completion of 3 additional hours in GSA, GSB, or GSC, Biology 305, and the following courses in botany: Botany 320, 335, 337, and any botany electives totaling 16 hours to be selected from Botany offerings excluding Botany 160, 257, 258, 259, 462, 490, 491; and may include up to a total of 6 hours selected from Botany 390, 391, and 492.

Botany As A Major

As a general rule, a student who intends to apply for admission to a graduate school for study for an advanced degree in botany should include the following in his or her undergraduate program: inorganic and organic chemistry, mathematics through calculus, a modern European language, and as many botany and biology courses as time and scheduling will permit.

An honors program is available to those juniors and seniors in botany who have an overall grade point average of 3.00 or better and an average in botany courses of 3.25 or better. The honors student should enroll in Botany 492 during some semester of both junior and senior years for a total of no fewer than three semester hours.

Representative First Job Titles: Agricultural Sales, Biological Product Development Scientist, Botanist, Ecologist, Economic Botanist, Horticulture Technician, Plant Breeding Technician, Plant Ecologist, Plant Morphologist, Plant Nematologist, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Plant Protection Technician, Quality Control Specialist, Parasitologist, Technical Library Operator, Museum Curator, Biotechnologist, Industrial Bacteriologist, Research-Glacier National Park, Biological Warfare Scientist, Agricultural Commodities Inspector.

The Bachelor of Science degree program with a major in Business and Administration is intended for those students with personal and professional goals which entail a blending of course work offered by the College of Business and Administration with a secondary concentration comprised of 20-23 semester hours of course work offered by other schools and colleges of the University. This combining of interests--business with an outside field--can result in a unique program. For example, a student with international business interests can combine business and administration with foreign languages; a student interested in going into the restaurant business can combine course work in food and nutrition with business and administration. The outside field (or secondary concentration) must be consistent with a specific career objective or personal development plan and at least 15 semester hours must be structured to achieve this objective. Individual programs are subject to the approval of the Dean of the College of Business and Administration.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
*GSB 202	Introduction to Psychology	3	
GSE-3 or	Humanities (select) ¹ or Human Health		
GSE-2	and Well Being (select) ¹	3 (2)	-
GSC	Humanities (select) ¹	-	3
*GSD 101 & 117, 118 or 119	English Composition & Writing (select) ¹	3	2
*MATH 116-5 or 139-3	Finite Mathematics and Algebra or Finite Mathematics	3 (5)	-
*ADSC 208	Interpretation of Business Data	-	4
		15 (16)	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
*ACCT 220, 230	Financial, Managerial Accounting	3	3
*CS 212 or EDP 217	Intro. to Computer Programming (PL1) or Computing for Business Admin. (Fortran)	-	3
*MATH 117-5 or 140-4	Finite Mathematics and Calculus or Short Course in Calculus	4 (5)	-
*ECON 214, 215	Economics, Macro and Micro ²	3	3
GSA	Science (select) ¹	-	3
*GSD 153 or 152	Public Speaking or Interpersonal Communication	3 (2)	-
GSC-3 or	Humanities (select) ¹ or Human Health		
GSE-2	and Well Being (select) ¹	3 (2)	-
GS- ---	General Studies Electives	-	4
		16 (15)	15

*Required courses for a major in Business and Administration.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Econ 214 or 215 counts toward GSB credit.

Business And Administration As A Major

Secondary concentration required; foreign language not required.

Graduate degree available: MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is recognized by the American Assembly of Collegiate Schools of Business (AACSB).

See College of Business and Administration listing for their retention policy.

The Business Economics major offered through the College of Business and Administration emphasizes the application of economic concepts and the use of critical analysis in the solution of economic and managerial problems.

This undergraduate program is an excellent general preparation for future managerial and staff assignments in a variety of business and public organizations. The program also prepares students for graduate study in economics as well as for the Master in Business Administration (MBA) degree.

Those students who desire professional careers as business and managerial economists are advised to plan to complete one to four years of post graduate study.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
*GSB 202	Introduction to Psychology	-	3
GSC-3 or	Humanities (select) ¹ or Human Health		
GSE-2	and Well-Being (select) ¹	3 (2)	-
GSC	Humanities (select) ¹	3	3
*GSD 101 & 117,			
118 or 119	English Composition & Writing (select) ¹	3	2
*MATH 116-5 or	Finite Mathematics and Algebra or		
139-3	Finite Mathematics	3 (5)	-
*ADSC 208	Interpretation of Business Data	-	4
		15 (16)	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
*ACCT 220, 230	Financial, Managerial Accounting	3	3
*CS 212 or	Intro to Computer Programming (PL/1) or		
EDP 217	Computing for Business Admin. (Fortran)	-	3
*ECON 214, 215	Economics, Macro and Micro ²	3	3
MATH 117-5 or	Finite Mathematics & Calculus or Short		
140-4	Course in Calculus	4 (5)	-
GSA	Science (select) ¹	-	3
*GSD 153 or 152	Public Speaking or Interpersonal Communication	3 (2)	-
GSC-3 or	Humanities (select) ¹ or Human Health		
GSE-2	and Well Being (select) ¹	3 (2)	-
GS- ---	General Studies Electives	-	3
		16 (15)	15

*Required course for a major in Business Economics

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Econ 214 or 215 count toward GSB credit.

Business Economics As A Major

Neither minor nor foreign language required.

Graduate degree available: MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is recognized by the American Assembly of Collegiate Schools of Business (AACSB). See College of Business and Administration listing for their retention policy.

Representative First Job Titles: Tax Consultant, Account Executive, Business & Economics Statistician, Business Planning Officer, Economic Analyst, Economic Forecaster, Investment Analyst, New Business Researcher, Organization Planning Officer, Systems Evaluator, Marketing Representative, Operating Plans and Procedures Officer, Operations Research Analyst, Labor Economist, Labor Relations Officer, Workman's Compensation Officer, Benefits Analyst, Industrial Economist, Industrial Labor Relations Specialization Off., Business Analyst, Loan Administrator, Loan Examiner.

BUSINESS EDUCATION
College of Education
(Bachelor of Science)

M. Frances Giles, Coordinator
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Roger Luft
Coordinator of Program Area
Telephone - 618-453-3321
General Classrooms Building, Room 133

Students admitted to the Undergraduate Teacher Education program in Business Education may select one of the following teaching areas: office education, accounting, data processing, general business/consumer education, and marketing.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB 202	Introduction to Psychology	3	-
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
GSD 107	Intermediate Algebra	4	-
GSD 152 or 153	Interpersonal Communication or Public Speaking	-	2
GSE	Human Health and Well Being	1	1
ED 201	Teacher's Role in Public School Education	-	1
VES 210	Introduction to Business Education	-	3
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 211	Contemporary Economics	3	-
GSB 212, 300 or 301	American Government or History of U.S.	-	4 (3)
GSC	English Elective in Humanities (select) ¹	3	-
GSD 110	Economic & Business Statistics	-	2
GSE 201	Healthful Living	2	-
SCR 101a	Keyboarding	2	-
VES 302	Communication in Business	-	2
ACT 220	Accounting I	3	-
VES 306	Introduction to Data Processing	-	3
GS	Electives	-	3
		<u>16</u>	<u>17 (16)</u>

¹Refer to the section General Studies for the Transfer Student.

Business Education As A Major

Students should include the following courses required for certification: GSB 202, Introduction to Psychology; GSB 211, Contemporary Economics; GSB 212, Introduction to American Government and Politics, or GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 118, Technical Writing; GSD 153, Public Communication; GSE 100-114, 2 hours, Physical Education Activities; GSE 201, Healthful Living; one additional English course (GSC, GSD, or Departmental).

Major Core Requirements: Accounting 220, Economics 214 or GSB 211 (see above), Marketing 304, Secretarial and Office Specialties 101 a and b, Vocational Education Studies 210, 302, and 306.

BUSINESS EDUCATION
 (Non-Certification Business Occupations
 Teaching)
 College of Education
 (Bachelor of Science)

M. Frances Giles, Coordinator
 Teacher Education Services
 Telephone - 618-453-2354
 Wham Building, Room 135

Dr. Roger Luft
 Coordinator of Program Area
 Telephone - 618-453-3321
 General Classrooms Building, Room 308

This Business Education program provides students with the background to fulfill careers in these areas: (1) teaching the occupation in community colleges, private schools, or government sponsored educational program; (2) employment in the occupation; (3) employment in education or training divisions within a business.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 202	Introduction to Psychology	3	-
GSB 305	Personal Finance	-	3
GSC	Humanities (select) ¹	-	3
GSC 208	Elementary Logic	3	-
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
GSD 113	Introduction to Mathematics	2	-
GSD 112 or 110	Statistics	-	2
GSD 152 or 153	Interpersonal Communication or Public Speaking	-	3
GSE	Human Health and Well Being	2	-
ACCT 220	Accounting I	-	3
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 211	Contemporary Economics	3	-
GSB 346	Consumer Choice and Behavior	3	-
GSC	Humanities (select) ¹	-	3
GSE	Human Health and Well Being	-	2
ACCT 230	Accounting II	-	3
SCR 101A	Keyboarding	3	-
GS	Electives	4	4
		<u>16</u>	<u>15</u>

¹ Refer to the section General Studies for the Transfer Student.

Business Education (Non-Certification Business Occupations Teaching) As A Major

The student is required to complete 53 semester hours in a combination of general courses in business and in courses in one of these business concentrations: (1) office; (2) accounting; (3) data processing; (4) marketing; (5) management. Work experience credit will be accepted in lieu of any of the business courses. Education requirements involve 22 semester hours in such course work as planning cooperative programs, working with adults, and specific methodology in teaching the business occupation.

The Department of Chemistry offers three concentrations in chemistry. The Bachelor of Science degree with certification by the American Chemical Society is recommended for those who wish to become professional chemists. The Bachelor of Arts degree involves less work in chemistry. This program is recommended to students who wish to complete a concentration in chemistry, but who plan on eventually going into other professional areas such as medicine, dentistry, etc.

The Bachelor of Science degree in Education is administered by the College of Education. It is provided for those who wish to become secondary school chemistry teachers.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212, 300, or 301	American Government or U.S. History	-	4 (3)
GSC	Humanities (select) ²	3	-
GSD 101	English Composition	3	-
GSD 117, 118, or 119	Writing (select) ²	-	2
GSE 201	Healthful Living	-	2
GSE	Human Health and Well Being--Activity	-	2
*CHEM 224, 225 and	Introduction to Chemical Principles and Lab and	7	-
GS or	General Studies Elective ²	-	4
*CHEM 222a,b	Introduction to Chemical Principles	(4)	(4)
*MATH 111	College Algebra and Trigonometry	5	-
		18 (15)	14 (13)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	-	3
GSB 202	Introduction to Psychology	3	-
GSC	English elective in Humanities (select) ²	3	-
GSB	Social Science (select) ²	-	3
GSC	Humanities (select) ²	-	3
GSD 153	Public Speaking	-	2
MATH 150	Calculus I	4	-
ED 201	Teacher's Role in Public School Education	1	-
CHEM 226	Introduction to Quantitative Chemical Principles	5	-
CHEM	Electives	-	4
		16	15

*Approved substitutes for General Studies.

¹ See also the program under College of Science.

² Refer to the section General Studies for the Transfer Student.

For specific major requirements see the Undergraduate Catalog.

Chemistry As A Major

To include the following courses required for certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics OR GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118, 119, Expository, Technical, or Creative Writing; GSD 153, Public Communication; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; One additional English course (GSC, GSD, or departmental).

Departmental substitutions in General Studies: For GSA 101 - Physics 203, 204, or 205; for GSA 106 - Chemistry 224; for GSA 107 - Chemistry 225; for GSD 107 (see above) - Mathematics 111.

The Department of Chemistry and Biochemistry has a long and distinguished record for its programs at the undergraduate level. These courses are designed to give thorough training in theory and practice. Three undergraduate degrees are offered allowing a student to select a program best suited to his or her future goals.

The Bachelor of Science degree from the College of Science is for those who will prepare for graduate school or who plan to be professional chemists. Those completing this degree meet the certification requirements of the American Chemical Society.

The Bachelor of Arts degree, also from the College of Science, offers the student greater choice in selecting his or her program. One option gives the student the minimum preparation for graduate work in Chemistry or Biochemistry; another prepares for medicine, dentistry and other health sciences. A third option in administration is also offered. Co-sponsored by the College of Science and Business and Administration, this option prepares chemistry students for careers in management, marketing, and production rather than research and development.

The Bachelor of Science in Education with a major in chemistry is administered by the College of Education.

First Year		Fall	Spring
BIOL	Biological Sciences (not GSA) ¹	3	3
*CHEM 224, 225 or			
CHEM 222a,b	Introduction to Chemical Principles ²	7 (4)	- (4)
CHEM 226	Intro. to Quantitative Chemical Principles	-	5
GSD 101	English Composition	3	-
GSD 153	Public Speaking	- (3)	3 (-)
GSD 118	Technical Report Writing	-	2
MATH 111	College Algebra and Trigonometry ¹	5	-
MATH 150	Analytic Geometry and Calculus ¹	-	4
		18	15 (16)
Second Year		Fall	Spring
CHEM 344	Organic Chemistry	4	-
CHEM 345	Laboratory Techniques	2	-
CHEM 346	Organic Chemistry	-	2
CHEM 349	Laboratory Technique	-	3
MATH 250	Calculus II	-	3
*FL	(German Recommended) ¹	4	4
*PHYS 205, 255	University Physics & Lab	4	4
GSB	Select ³	3	-
		17	16

*Approved substitutes for General Studies.

¹ Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences. German is required by the American Chemical Society.

² Pre-Medical students are encouraged to take Chem 222a,b in the second year, instead.

³ Refer to section General Studies for the Transfer Student.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives, and on fulfilling remaining General Studies requirements. The B.S. in the College of Science requires a year of calculus based physical chemistry, a course in instrumental analysis and advanced courses from biochemistry, inorganic chemistry, organic chemistry or physical chemistry. The B.A. degree is somewhat less demanding and the available options allow a program to be tailored to the needs of the individual.

Chemistry As A Major

Our Faculty consists of 23 Ph.D.'s; our building is quite new, and our teaching equipment is modern. We take pride in the quality of professional training that is available to our students. Those who are interested in careers in research or college teaching will continue their education in an appropriate graduate school. Others may enter professional schools or select immediate employment in the industry. The chemist typically finds work in private or government laboratories, and his or her activities may be in research and development, sales, or analysis and control of manufacturing processes.

Representative First Job Titles: Research-Pharmaceutical, Biochemist, Biochemical Technologist, Research Chemist, Blood Chemistry Technician, Quality Control Chemist, Analytical Chemist, Organic Chemist, Inorganic Chemist, Physical Chemist, Food Chemist, Soil Chemist, Agricultural Chemist, Paint Chemist, Chemical Laboratory Technologist, Dye Chemist, Geochemist, Glass Chemist, Industrial Alcohols Chemist, Leather Chemist, Manufacturer's Representative, Nuclear Chemist, Product Studies and Testing Chemist, Textile Chemist, Water Purification Chemist.

The preschool early childhood specialization has been specifically designed to prepare future teachers of children under six and will lead to certification by the State of Illinois. This program is jointly offered by the Department of Curriculum, Instruction, and Media in the College of Education, under the title Early Childhood Education.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	3
*GSB 202	Introduction to Psychology	3	-
GSB	Social Science (select)	-	3
**GSC	Humanities (Art and Music are required)	3	3
GSD 101	English Composition	3	-
*GSD 117 or 119	Expository or Creative Writing	-	2
*GSD 152, 153	Interpersonal Communication or Public Speaking	-	2 (3)
F&N 100	Fundamentals of Nutrition	3	-
*GSE 201	Healthful Living	-	2
		<u>15</u>	<u>15 (16)</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	-
*GSB 212 or 300 or 301	Intro. to American Government & Politics or Origins of Modern America (1492-1877) or Modern America from 1877 to present	3	-
GSC	Humanities (select)	3	3
GSD	Mathematics	-	4
*GSE	Human Health and Well Being (Activity)	1	1
C&F 227	Marriage and Family Living	3	-
C&F 237	Child Development	3	-
Elective		-	3
*Psysc 301	Child Psychology	-	3
		<u>16</u>	<u>14</u>

*Required General Studies. See section on General Studies for the transfer student.

**Under Humanities - Music 101 is to be substituted for GSC 100 for certification. Art may be GSC 101, 204, 205, or Art 100.

Faculty have varied interests in Child Development/Family Relations, retardation, motivation of the child, sex education.

Excellent facilities - Child Development Laboratory with observation booth.

Representative First Job Titles: Nursery School Director, Day Care Center Director, Child Care Specialist, Home Economics Extension Specialist, Recreational Leader, Residential Life Supervisor, Preschool Director, Child Behavior Studies Specialist, Child Welfare Studies Specialist, Child Placement Studies Specialist, Family Welfare Studies Specialist, Cultural Studies Specialist, Sales Trainee, Children's Programs Organizer, Child Development Specialist, Minority Groups & Race Relations Studies Specialist, Population Studies Specialist, Teacher (Pre-School).

Within a major in Child and Family, the curriculum offers specialization in Pre-School Programs. These courses offer basic background leading to position as nursery school director or teacher in private schools, colleges and universities and day care centers; director or teacher in residential living facilities for exceptional children; child care specialists with social, public health and welfare agencies; home economics extension specialists in child care; and recreational leaders.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	3
*GSB 202	Introduction to Psychology	3	-
*GSB 203	The Sociological Perspective	-	3
GSC	Humanities (select)	3	3
GSD 101	English Composition	3	-
GSD 117, 118, or 119	Writing	-	2
GSD 152	Interpersonal Communication	-	2
F&N 100	Fundamentals of Nutrition	3	-
GSE	Human Health and Well Being (select)	-	2
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	-
*GSB 212	Intro. to American Government & Politics	-	4
GSC	Humanities (select)	3	-
GSD	Mathematics	-	4
GSE	Human Health and Well Being	-	1
C&F 227	Marriage and Family Living	3	-
C&F 237	Child Development	3	-
Elective		3	4
PSYC 301	Child Psychology	-	3
		<u>15</u>	<u>16</u>

*Required General Studies. See section on General Studies for the transfer student.

Child And Family As A Major

No minor required.

Flexibility of program provides for specialization in the areas of direct care of children, teaching, and community development related services.

Graduate degree available.

Faculty have varied interests in child development/family relations, retardation, motivation of the child, sex education, child abuse.

Excellent facilities - Child Development Laboratory with observation booth.

Representative First Job Titles: Nursery School Director, Day Care Center Director, Child Care Specialist, Home Economics Extension Specialist, Recreational Leader, Residential Life Supervisor, Preschool Director, Child Behavior Studies Specialist, Child Welfare Studies Specialist, Child Placement Studies Specialist, Family Welfare Studies Specialist, Cultural Studies Specialist, Sales Trainee, Children's Programs Organizer, Child Development Specialist, Minority Groups & Race Relations Studies Specialist, Population Studies Specialist, Teacher (Pre-School)

CINEMA AND PHOTOGRAPHY

College of Communications and Fine Arts
(Bachelor of Arts)

Dr. Timothy J. Lyons, Chairperson
Timothy A. Wilbers, Advisor
Telephone - 618-453-2682
Communications Bldg.-North Wing

Cinema and Photography courses provide the undergraduate student with a substantial background in the history, theory, and practice of photographic communication and expression. The curriculum is structured to make available a strong foundation for both professional and educational careers in film and photography, to explore the social implications of still and moving pictures, and to provide opportunity for the study of both cinema and still photography as media for communication and personal expression. In all instances, programs are tailored to the interests and career plans of the individual student.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	3	3
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition	3	-
GSD	Mathematics (select) ¹	-	4
GSD 117, 118			
or 119	Writing (select) ¹	-	2
GSD 152 or 153	Interpersonal Communication or Public Speaking	2 (3)	-
GSE	Human Health and Well Being (select) ¹	<u>2</u>	<u>2</u>
		13 (14)	14
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Studies (select) ¹	3	3
GSC	Humanities (select) ¹	3	3
GS Elective	From A, B or C (select) ¹	3	-
*C&P 310 or 360	History of Still Photography or Film Analysis	3	-
*C&P 311 or 368	Contemporary Photography or Intro to Cinema Theory	-	3
*C&P 320 or 355	Basic Photography or Film Production I	4	-
*C&P 322 or 356	Color Photography or Film Production II	<u>-</u>	<u>4</u>
		16	16

¹ Refer to section General Studies for the Transfer Student.

*Requirements for Cinema and Photography major.

Cinema And Photography As A Major

This department is recognized by national photographic organizations as one of the leading departments in the country.

A grade of C is required in prerequisite courses and a 2.0 average must be maintained in cinema and photography courses in order to remain in the major.

No minor required. No foreign language required. The Master of Fine Arts degree in Cinema and Photography is also available.

Students must successfully complete the core requirements and portfolios and/or films must be submitted for entrance into certain courses.

Students purchase supplies for many cinema and photography courses. In courses which involve analysis and screening of a number of films, a screening fee is assessed. Lab fees may be required for certain other courses.

Only transfer credit of an exceptional nature has been accepted to fulfill the major requirements in Cinema and Photography.

The University reserves the right to retain examples of the work of each student in each photography class and to make and retain prints of all films made as part of course work. Such photographs and films become part of a permanent departmental collection from which exhibitions may be prepared.

Representative First Job Titles: Studio Assistant, Illustrator, Cameramen, Painting & Publication Officer, Visual Information Specialist, Color Technician, Developer, Printer, Retoucher, Sales Manager, Photochecker & Assembler, Chemical Mixer, Advertising Agent, Newsfilm Editor, Film Industry Business Assistant, Film Production Staff, Film Planner, Free Lance Photographer, Documentary Film Specialist, Quality Control Officer, Film Numberer, Film Stripper.

Programs of study in foreign languages leading to the Bachelor of Arts degree in the College of Liberal Arts (with or without teacher certification) are offered in Classics, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree in the College of Liberal Arts for students who have a professional or occupational interest in Asia. Students wishing to work towards this major are encouraged to take as Asian language.

Students majoring in a foreign language usually begin at the second or third-year level. The student who has taken two years of one foreign language in high school (or equivalent) may earn proficiency credit through taking a proficiency exam in French, German, Latin, Spanish at the Testing Center, or in Chinese, Greek, Japanese, Russian at the Foreign Languages and Literatures Department. For additional credit, students with more than two years are encouraged to take a validating course. Students with four years in one foreign language at the high school level are encouraged to continue with that language. Since proficiency credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

First Year		Fall	Spring
GSA	Science (select)	-	3
GSB	Social Science (select)	3	3
GSC	Humanities (select)	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select)	3	2
CLAS 133a,b or or CLAS 202a,b or	Elementary Latin ^{1,2} or Greek ^{1,2}	4	4
CLAS 201a,b	Intermediate Latin ^{1,2} or Greek ^{1,2}	(3)	(3)
GSD	Math (select)	-	4
GSE	Human Health and Well Being (select)	2	-
		14	15
Second Year		Fall	Spring
GSA	Science (select)	3	3
GSB	Social Science (select)	-	3
MATH or CS	or Computer Science ³	3	-
GSD	Speech (select)	2 (3)	-
CLAS	Classics Electives ⁴	3	3
GSE	Human Health and Well Being (select)	-	2
CLAS	Latin or Greek Language	4	4
		15-16	15

¹Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

²Required by the major--two years of one language or one year of each.

³One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later. Students with more than one year of high school Latin or Greek should carry at least one substantial course in the classics major each semester.

⁴Required by the major.

Classics As A Major

A major in Classics consists of 36 semester hours in courses on all levels. Electives may be chosen from specified courses in the departments of Anthropology, Art, History, Philosophy, Political Science, and Religious Studies. A minor in Classics consists of 15 semester hours.

NOTE: Foreign Language majors must satisfy College of Liberal Arts requirements. Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Translator, Simultaneous Interpreter, Consecutive Interpreter, Visitors' Guide, Communications Specialist, Public Information Officer, Escort Interpreter, Conference Interpreter, International Relations Officer, Sales Representative, Writer, Editor, Publications Staff, Speech Writer, Archaeological Worker, Archival Worker, Museum Curator, Cultural Studies Specialist, Researcher, Exhibit Preparator.

CLOTHING AND TEXTILES
(Apparel Design)
Division of Comprehensive
Planning and Design
College of Human Resources
(Bachelor of Science)

Dr. Wayne L. St. John
Coordinator
Telephone - 618-536-7741
Quigley Hall, Room 311

The apparel design program in the Division of Comprehensive Planning and Design gives students training for design occupations either in an industrial setting or in a custom shop. Many careers in design-related businesses are also available to the graduate of this program. The variety of course offerings is outstanding, which provides the student with opportunity to develop individual skills and competencies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	-
GSA 106	Chemistry for NonScience Majors	-	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
CT 127	Clothing Construction	3	-
GSE	Human Health and Well Being (select)	-	1
ART 100a	Basic Studio	-	4
GSB 211	Contemporary Economics	-	3
GSC	Humanities (select)	3	3
CT 150	Survey of Clothing	2	-
		14	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology	3	-
GSC 205	Innovation for the Contemporary Environment	3	-
ART 200	Beginning Drawing	-	2
ART 100B	Basic Studio	-	4
GSD 152 or 153	Interpersonal Communication or Public Speaking	2 (3)	-
GSD	Mathematics (select)	-	4
GSE	Human Health and Well Being (select)	2	1
CT 351	Fashion Motivation	3	-
CT 352	Family Clothing	3	-
CT 304	Textiles	-	4
		16 (17)	15

Third and Fourth Year

If not completed at the junior college level, Chemistry and CT 127 (Clothing Construction) must be taken the first semester the transfer student is at SIUC. Other courses taken during the last two years will include the professional apparel design courses within the department and electives.

This specialization is intended for the student interested in professional preparation in apparel design or allied design positions in either industrial or commercial fashion businesses. The courses available to the student cover textile information, fashion design, and skills required for developing original designs into patterns and completed garments. Courses in Clothing and Textiles are complemented by ones in art, business, and other areas in order to provide a suitable background for various career opportunities.

Representative First Job Titles: Family Expenditures Studies Specialist, Consumer Market Analyst, Consumer Relations Officer, Apparel Designer, Fashion Coordinator, Patterns Designer, Tailor, Clothing Economist, Fashion Merchandising Expert, Advertising Assistant, Retail Store Manager, Cost Analyst, Customer Services Specialist, Sales Agent, Purchasing Manager, Marketing Specialist, Textile Selector, Textile Laboratory Assistant, Customer Relations Specialist, Pattern Maker, Industrial Relations Specialist, Price Economist, Manufacturer's Representative.

CLOTHING AND TEXTILES

(Retailing)

Division of Comprehensive

Planning and Design

College of Human Resources

(Bachelor of Science)

Dr. Wayne L. St. John,
Coordinator
Telephone - 618-536-7741
Quigley Hall, Room 311

The retailing program at Southern Illinois University at Carbondale is offered through the Division of Comprehensive Planning and Design. Professional and free elective hours make it possible for the student to choose the courses of greatest personal value.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	-
GSA 106	Chemistry for NonScience Majors	-	3
GSD 101	English Composition	3	-
CT 150	Survey of Clothing	2	-
GSD 117, 118 or 119	Writing (select)	-	2
GSE	Human Health and Well Being (select)	-	1
GSC	Humanities (select) ¹	3	3
GSB	Social Sciences (select)	3	3
Elective		-	3
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
ACCT 210 or 220	Principles of Accounting	-	3
GSD 152 or 153	Interpersonal Communications or Public Speaking	-	2 (3)
GSC 205	Innovation for the Contemporary Environment	3	-
GSB 202	Introduction to Psychology	3	-
GSB 211	Contemporary Economics	3	-
GSE	Human Health and Well Being (select)	-	2
CT 351	Fashion Motivation	3	-
CT 352	Family Clothing	3	-
CT 304	Textiles	-	4
GSD	Mathematics (select)	-	4
		<u>15</u>	<u>15 (16)</u>

¹ Art 100a will substitute for GSC Humanities. Retailing students must take Art 100a, Design 150 or Interior Design 131.

Third and Fourth Year

If not completed at the junior college level, chemistry should be taken the first semester the transfer student is at SIUC. Other courses during the last two years will include additional work in marketing, administrative sciences and related business courses; core, electives and professional courses within the Clothing and Textiles Department; and elective hours. The retailing major should have some experience in a sales position before the junior year.

This specialization prepares students for a profession in retail stores, either as buyers or department managers. Other related retailing positions which are also available to the student include personnel, training, inventory control, and security.

Representative First Job Titles: Family Expenditures Studies Specialist, Consumer Market Analyst, Consumer Relations Officer, Apparel Designer, Fashion Coordinator, Patterns Designer, Tailor, Clothing Economist, Fashion Merchandising Expert, Advertising Assistant, Retail Store Manager, Cost Analyst, Customer Services Specialist, Sales Agent, Purchasing Manager, Marketing Specialist, Textile Selector, Textile Laboratory Assistant, Customer Relations Specialist, Pattern Maker, Industrial Relations Specialist, Price Economist, Manufacturer's Representative.

The advertising business is a growing field, presenting ever increasing opportunities for men and women who have creative and artistic ability. Trained people are needed to develop story illustrations, advertising layouts, billboard design, point-of-purchase displays, package designs, direct mail pieces, annual report designs, television commercials, title cards, finished lettering, fashion illustrations, airbrush and photo retouching and many others.

Students in this program develop multiple art skills so that they may qualify for initial positions in many different areas of advertising art and design. Each individual has a base upon which to build a career according to his or her own special interests and talents.

Each graduating CGD student is required to attain a 90% or better achievement on a vocabulary proficiency test, and to have compiled a professionally acceptable portfolio of work.

The student should expect to spend approximately \$1,000-\$1,200 for supplies, equipment, and materials over a two-year period.

An advisory committee whose members are active in the advertising and graphic design professions serves the program.

All faculty are professionals attracted from agencies or studios, hence are uniquely adept in the practical aspects of design.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
CG 110	Art Appreciation	3	-
CG 120	Artistic Anatomy and Color Perception I	4	-
CG 122	Technical Drawing for Graphic Design	4	-
CG 124	Graphic Layout and Typography I	4	-
GSD 101	English Composition	3	-
GSD 153	Public Speaking	-	3
CG 130	Artistic Anatomy and Color Perception II	-	4
CG 132	Airbrush and Photo Retouching	-	4
CG 133	Copyfitting	-	1
CG 134	Graphic Layout and Typography II	-	4
STC 199	Individual Study (Photography)	-	2
GSB 200	Level 3 Elective (Psychology Recommended)	-	3
		<u>18</u>	<u>21</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
CG 210	Advertising Graphics	8	-
CG 224	Publication Graphics	8	-
STC 102	Technical Writing (Special Course for Majors)	2	-
CG 222	Graphic Design and Advertising Illustration	-	8
CG 215	Dimensional Design	-	8
CG 230	Job Orientation Seminar	-	1
		<u>18</u>	<u>17</u>

A minimum of 73 hours is required for this program.

Applicants must be admitted to the University with undecided - Commercial Graphics designation by December 6, 1982 for the Fall 1983 semester, and then will be contacted by the program. At this point, they must submit a portfolio of required examples in addition to taking a workshop. Those students who show that they are the best prepared will be invited to enroll in the program.

Representative First Job Titles: Commercial Artist, Layout Artist, Sketch Artist, Paste-up Artist, Package Designer, Freelance Artist, Illustrator, Mechanical Artist, Publication Designer, Photo-retoucher, Assistant to Art Director.

COMMUNICATION DISORDERS AND SCIENCES

(Clinical Specialization)
 (Public School Specialization)
 College of Communications and
 Fine Arts
 (Bachelor of Science)
 and
 (Public School Specialization)
 College of Education
 (Bachelor of Science)

I. P. Brackett, Chairperson
 Telephone - 618-453-4301
 Communications Bldg., Rm 1003

M. Frances Giles
 Coordinator of Teacher
 Education Services
 Telephone - 618-453-2354
 Wham Building, Room 135

The program in communication disorders and sciences has as its objective the training of qualified personnel to work with people impaired in either speech or hearing. The undergraduate curriculum is broad in scope and gives the student the necessary background for the professional program offered at the master's level. Both state and national certification require the master of science degree.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 115	Biology	3	-
GSA 209	Principles of Physiology	-	3
GSB 202	Introduction to Psychology	3	-
GSB 203	The Sociological Perspective	3	-
GSC	Humanities (select) ¹	3	3
GSA, GSB, or GSC	Select ¹	-	3
GSD 101	English Composition	3	-
GSD 107	Intermediate Algebra	-	4
GSE 201	Healthful Living	-	2
		15	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	(select) ¹	3	-
GSB 206	Applied Child Development	3	-
GSC	(select) ¹	3	-
GSD 152 or 153	Interpersonal Communication or Public Speaking	-	2-3
GSE	Human Health and Well Being (select) ¹	1	1
GSD 117	Expository Writing	2	-
PSYC 301	Child Psychology	-	3
CDS 200	Phonetics	3	-
CDS 203	Introduction to Speech Language and Hearing Science	-	3
CDS 105	Introduction to Communication Disorders	-	3
ED 201 or	Teacher's Role in Public Education ² or	-	1 + 2
PSYCH 211	Research Methods in Psychology ³	-	(4)
		15	15-17

¹ Refer to section: General Studies for the Transfer Student.

² Public School Specialization, plus 2 hours of GS elective credit.

³ Substitute for Clinical Specialization.

Preparation for teacher certification should include the following courses taught via General Studies: GSB 202, Introduction to Psychology; GSB 212 or GSB 300 or 301; GSD 101; GSD 117 or 118 or 119; GSD 153; GSE 100-114 (2 hours); and one additional English course from GSC, GSD or department.

Communication Disorders and Sciences As A Major

Clinical experience is obtained for all students through work at the University's Clinical Center, the public schools in student teaching, special summer programs, the Marion Veterans Administration Hospital, A.L. Bowen Children's Center, the Anna State Hospital and area hospitals.

Students will be encouraged to plan programs of study to meet academic and praticum requirements for the Certificate of Clinical Competence of the American Speech and Hearing Association and the Standard Special Certificate - Certificate in Speech and Language Impaired.

Representative First Job Titles (all require certification/Master of Science degree): Rehabilitation Officer, Community Speech & Hearing Centers Worker, Private Consultant, Psychiatric Aide, Research Center Technician, Therapeutic Technician, Child Behavior Specialist, Child Welfare Specialist, Hearing Aids Specialist, Physical Retardation Specialist, Diagnostic Technician, Treatment Evaluator, Therapy Programmer, Researcher.

Requirements for a major in computer science are specified in two alternative forms. The program under Option A is the more flexible, broadly based, and provides preparation for a wide range of careers as well as for graduate training in computer science. Option B is more specifically oriented toward preparing a student for a career in business and management information processing.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
MATH 111	College Algebra and Trigonometry ²	5	-
MATH 150	Calculus I ^{3,5}	-	4
GSA	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118 or 119	English Composition ¹ and Writing (select) ¹	3	2
GSE	Human Health and Well Being (select) ¹	2	-
CS 202	Introduction to Computer Programming ³	-	3
		<u>16</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
CS 204	Advanced Programming Techniques ³	3	-
CS 302	Assembly Language Programming ³	-	4
MATH 250	Calculus II ³	4	-
MATH 221	Introduction to Linear Algebra ³	-	3
GSA	Science (select) ¹	3	-
GSA	Social Science (select) ¹	-	3
GSC or FL	Humanities (select) ¹ or Foreign Language ⁴	3 (4)	3 (4)
GSD	Speech (select) ¹	2 (3)	-
GSE	Human Health and Well Being (select) ¹	-	2
		<u>15 (17)</u>	<u>15 (16)</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Will substitute for general studies mathematics.

³Required by the major.

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁵This course may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

CS 202 is a first course in programming using PL/I as a vehicle. CS 204 is a second course in programming which also uses PL/I as a vehicle. CS 302 is an intensive assembly language programming course.

Mathematics courses: The basic calculus requirement for a CS major under Option A is 8 hours as defined by Math 150 and 250. These may be taken in the student's third year without retarding graduation but it is preferable that they be taken earlier. Math 251 is not required, it is a recommended elective. Note that a student with insufficient background may have to take a pre-calculus course such as Math III prior to taking Math 150.

Computer Science As A Major

The department offers courses covering the major areas of computer science. These courses constitute the basis for an undergraduate curriculum which prepares students for professional and technical careers in government and industry or for graduate work leading to advanced degrees. The curriculum includes such topics as programming, computer hardware and software systems, simulation, data management and computer applications to business and science. Students will be advised with respect to computer science courses by the department so that they may profitably pursue their academic and professional interests.

Representative First Job Titles: Programmer (Computer Programmer), Systems Analyst, Equipment Analyst, Computer Specialist, Process-Control Computers Scientist, Computer simulation Technician, Dealer Data Processing Personnel, Legislative Retrieval Specialist, Computer-Controlled Machinery Operator, Plant Protection Scientist, Safety Devices Operator, Security Devices Operator, Sales Representative, Computer Research Scientist, Consultant.

The Department of Computer Science now offers a new undergraduate program leading to the Bachelor of Arts degree. The curriculum will provide a student with broad undergraduate training in computer science and will also permit concentration in particular areas of interest.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
Math 116	Finite Mathematics and Algebra ^{2,3}	5	-
Math 117	Finite Mathematics and Calculus ^{2,3}	-	4
GSB	Social Science (select) ¹	3	-
GSB 202	Introduction to Psychology	-	3
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSE	Human Health and Well Being (select) ¹	2	-
CS 202	Introduction to Computer Programming ³	-	3
<u>Second Year</u>		<u>16</u> <u>Fall</u>	<u>15</u> <u>Spring</u>
CS 204	Advanced Programming Techniques ³	3	-
CS 302	Assembly Language Programming ³	-	4
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	-	3
GSC or FL	Humanities (select) ¹ or Foreign Language ⁴	3 (4)	3 (4)
GSD	Speech (select) ¹	2 (3)	-
ACCT 220,230	Accounting I and II ³	3 <u>14 (16)</u>	3 <u>13 (14)</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Mathematics Courses: Option B is a combination of finite mathematics and intuitive calculus which require less technical prerequisites. The requirement may be satisfied by taking Math 116, 117 or Mathematics 139, 140, the choice depending on the student's background in mathematics. One of these courses may substitute for GS Math, and the other may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

³Required by the major. Please note Accounting 220 and 230 replace Accounting 221 and 222.

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

Requirements for a major in computer science are specified in two alternative forms. The program under Option A is the more flexible, broadly based, and provides preparation for a wide range of careers as well as for graduate training in computer science. Option B is more specifically oriented toward preparing a student for a career in business and management information processing.

CS 202 is a first course in programming using PL/I as a vehicle. CS 204 is a second course in programming which also uses PL/I as a vehicle. CS 302 is an intensive assembly language programming course.

Computer Science As A Major

The department offers courses covering the major areas of computer science. These courses constitute the basis for an undergraduate curriculum which prepares students for professional and technical careers in government and industry or for graduate work leading to advanced degrees. The curriculum includes such topics as programming, computer hardware and software systems, simulation, data management and computer applications to business and science. Students will be advised with respect to computer science courses by the department so that they may profitably pursue their academic and professional interests.

Representative First Job Titles: Programmer (Computer Programmer), Systems Analyst, Equipment Analyst, Computer Specialist, Process-Control Computers Scientist, computer Simulation Technician, Dealer Data Processing Personnel, Legislative Retrieval Specialist, Computer-Controlled Machinery Operator, Plant Protection Scientist, Safety Devices Operator, Security Devices Operator, Sales Representative, Computer Research Scientist, Consultant.

These courses provide training which will enable the individual to qualify for positions of greater opportunity and responsibility after relatively short periods of apprenticeship or trade experience in the fields of construction supervision, cost estimating, management, and building construction.

Field trips to nearby cities to study and observe various types of construction are made each school year. Allowance should be made for the purchase of small amounts of equipment and supplies.

<u>First Year</u>	<u>Fall</u>	<u>Spring</u>
STC 105a,b	4	-
STC 107a,b	-	4
Cst 102a	4	-
Cst 103a	4	-
Cst 104	-	4
Cst 110	7	-
Cst 111	-	7
Cst 125a	-	3
	<u>19</u>	<u>18</u>

<u>Second Year</u>	<u>Fall</u>	<u>Spring</u>
GSD 101	3	-
STC 120	-	3
STC 102	-	2
STC 103b	4	-
Cst 125b	3	-
Cst 208	-	3
Cst 210	7	-
Cst 211	-	7
Elective	-	3
	<u>17</u>	<u>18</u>

Construction Technology As A Major

Residential and light commercial building construction offers a multitude of opportunities in the areas of management and supervision.

The student will learn basic energy efficient construction principles including active and passive solar applications, surveying, drafting and properties of construction materials. He or she will be able to develop construction details and working drawings, and to make construction cost estimates, including labor, materials, and schedules. The student will learn code requirements and specifications affecting mechanical equipment such as plumbing, heating, air conditioning, and illumination. He or she will acquire the knowledge necessary for basic management and business positions through the study of business fiscal management, technical writing, physical sciences, and mathematics.

The student in this program will have the benefit of a well-equipped wood utilization laboratory.

A minimum of 72 hours credit is required for the associate degree.

Representative First Job Titles: Carpenter, Construction Engineering Aide, Building Materials Salesperson, Estimator, Construction Foreman, Assistant to Contract Supervisor, Inspector, Assistant Project Manager.

A growing demand for trained correctional workers is being created by increasing emphasis on rehabilitation of criminal offenders. These people are needed both in institutions and in community-based corrections.

This correctional services program has the two-fold purpose of providing a broad-based social science type curriculum to both the person entering the field and to presently employed personnel who wish to upgrade skills for advancement opportunities.

The student will learn the nature and effects of crime on both the perpetrator and the victim, methods used to combat crime in modern society, and various approaches to rehabilitation of the offender. He or she will spend one term in supervised internship working in a correctional agency or social service agency.

Persons already employed in the correctional field may enroll in the program on a part-time basis with the assurance that faculty members will help them to arrange classes compatible with their work schedules.

Professionals in the field serve on an advisory committee which assists in the program.

A minimum of 62 hours credit is required for this major.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
CLE 103	Introduction to Criminal Justice	3	-
CLE 104	Treatment Methods in Criminal Justice	3	-
GSB 202	Introduction to Psychology	3	-
CLE 115	Interpersonal Relations in Criminal Justice	-	3
GSD 118	Technical Report Writing	-	2
CLE 106	Treatment Practicum	-	3
CLE 108	Supervision in Criminal Justice	-	3
GSB 203	The Sociological Perspective	-	4
GSD 153	Public Speaking	-	3
CLE 220	Probation, Parole and Community Based Corrections	-	3
		<u>15</u>	<u>18</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212	Intro to American Government & Politics	4	-
CLE 105	Criminal Behavior	3	-
CLE 209	Criminal Law I	3	-
Electives	(From GSA, GSC or GSE)	4	-
CLE 210	Criminal Law II	-	3
CLE 218	Introduction to Corrections	-	3
CLE 215	Internship in Criminal Justice Practice	-	9
		<u>14</u>	<u>15</u>

Representative First Job Titles: Group Home Counselor, Correctional Officer, Probation Officer, Juvenile Officer, Volunteer Coordinator, Criminal Justice Planner.

DENTAL HYGIENE

School of Technical Careers
(Associate in Applied Science)

Jo Ellen Middleton
Program Coordinator
Telephone - 618-536-6682
STC Building, Room 18D

The dental hygienist is an important member of the dental health team, and is the only one other than the dentist who is permitted by law to work directly in the mouth of the patient. Both men and women enjoy the profession. All states require the dental hygienist to be licensed and to work under the supervision of a licensed dentist. The hygienist's area of responsibility includes oral prophylaxis (scaling and polishing of the teeth), chairside assisting, x-ray examinations, laboratory techniques, office and administrative procedures, dental health education, and other areas of preventive dentistry.

This program is fully accredited by the Council on Dental Education of the American Dental Association. Available facilities restrict first-year enrollment to 56 students. Interested persons should contact both the SIUC Office of Admissions and the dental hygiene faculty. Special application material is included in requirements for admission to the program. Applicants must take the Dental Hygiene Aptitude Test by November of the year preceding the fall in which they wish to enter in order to have the results evaluated with other required material; for Fall 1983 admission, the test must be taken no later than November 1982.

This test is sponsored by the American Dental Hygiene Assn., 666 N. Lake Shore Dr., Suite 1136 Chicago, IL 60611 (312-642-3954), and information on testing sites and dates is available from that organization.

All application materials to the University and to the program for Fall 1983 must be on file no later than January 15, 1983.

The dental hygiene student has expenses of about \$2600 in addition to University tuition and fees. This covers the cost of instruments, uniforms, liability insurance, and a basic professional library; in addition they spend two weeks at the School of Dental Medicine in Alton, IL, for a seminar.

First Year

		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
GSD 153	Public Speaking	2	-
Chem 140a,b	Chemistry	4	4
DH 136	Cranial and Oral Anatomy	4	-
DH 137a,b	Pre-Clinical Dental Hygiene	5	5
DH 215	Ethics, Jurisprudence, & Office Management	1	-
Physio 301	Survey of Human Anatomy	-	4
GSA 209	Principles of Physiology	-	3
DH 133	Histology and Embryology	-	2
DH 218a	Dental Radiology	-	2
		<u>19</u>	<u>20</u>

Summer Session (8 weeks)

MICR 201	Elementary Microbiology	4
DH 217	Dental Nutrition	2
DH 209	Dental Hygiene Clinic	3
DH 218b	Dental Radiology	<u>2</u>
		<u>11</u>

Second Year

		<u>Fall</u>	<u>Spring</u>
DH 138	Pathology	3	-
DH 220a,b	Community Dentistry	3	3
DH 201	Dental Materials and Assisting Techniques	4	-
DH 210a,b	Clinical DH and Radiology	6	6
DH 240	Dental Pharmacology and Anesthesia	2	-
DH 241	Periodontology	2	-
GSB 202	Intro to Psychology	-	3
GSB 203	The Sociological Perspective	-	4
DH 211	Seminar	-	2
		<u>20</u>	<u>18</u>

A minimum of 88 hours is required for this program.

Representative First Job Titles: Dental Hygienist, Researcher, Health Administrator.

DENTAL LABORATORY TECHNOLOGY

School of Technical Careers
(Associate in Applied Science)

Dennis Laake
Program Coordinator
Telephone - 618-536-6682
STC Building, Room 18B

Dental Laboratory Technology is concerned with the construction of replacements for natural teeth which have been lost by disease or accident. A technologist trained in this art is called a Dental Laboratory Technician.

The relationship of the dental technician to the dentist is similar to that of the pharmacist to the physician or the optician to the eye specialist. Important members of the dental health team, students find their skills and knowledge are invaluable. They work under the guidance and instruction of the dentist, thus permitting the dentist to devote more of his or her time to chair-side operative and restorative dentistry.

The Dental Technology program includes extensive study covering all phases of dental laboratory technology and leads to an associate in applied science degree.

The program was designed so that students would receive not only technical training but such general education courses as would prepare them for a socially complex world. It is for this reason that approximately one-third of the total curriculum consists of general education courses.

The technical curriculum covers a complete study of dental morphology, fabrication of dental restorations and appliances in all the prosthetic phases of dentistry, dental material, professional ethics and other related subjects.

First Year		Fall	Spring
GSD 101	English Composition	3	-
GSA 106	Chemistry for Non-Science Majors	3	-
GSA 209	Principles of Physiology	-	3
DT 102*	Tooth Anatomy	4.5	-
DT 103a*	Complete Dentures	4.5	-
DT 103b*	Advanced Complete Dentures	4.5	-
DT 104a*	Removable Partial Dentures	-	4.5
DT 104b*	Advanced Removable Partial Dentures	-	4.5
DT 113a	Science of Dental Materials	-	2
DT 128	Oral Anatomy	-	1
DT 143	Orientation to Dental Technology	1	-
DT 106	Dental Orthodontics & Pedodontics	-	4.5
		20.5	19.5
Second Year		Fall	Spring
GSD 152	Interpersonal Communication	-	2
STC 102	Technical Writing	2	-
STC 120	Fiscal Aspects of Technical Careers I	-	3
DT 113b	Science of Dental Materials	2	-
DT 202	Professional Ethics	1	-
DT 200	Dental Occlusion	4.5	-
DT 204a*	Beginning Crown and Bridge	4.5	-
DT 204b*	Advanced Crown and Bridge	4.5	-
DT 206a*	Dental Ceramics	-	4.5
DT 206b*	Advanced Dental Ceramics	-	4.5
DT 210	Dental Lab Specialty	-	4.5
		18.5	18.5

*Five-week module.

Dental Laboratory Technology As A Major

This program is the first of its kind in the state of Illinois which is accredited by the Council on Dental Education and Commission on Accreditation of the American Dental Association.

The School of Technical Careers has been a pioneer in approved training for dental technicians and the curriculum and staff are fully accredited by the Council on Dental Education and Commission on Accreditation of the American Dental Association. The Council's standards are sufficiently high to insure that the graduate of such an accredited program has the best education it is possible to give in the time allocated. The staff is highly qualified for teaching this portion of the dental field, having enjoyed many years of experience in dental education and technology education. This is backed by years of practical experience in the entire field. Graduates are eagerly sought by the owners of the many ethical laboratories throughout the United States.

The student should expect to spend about \$600 for a dental kit, laboratory jacket, Delta Tau Club, and recognized graduate exam fee over a two year period.

Representative First Job Titles: Dental Technician, Sales Representative, Technical Representative.

The faculty and students of the Design Program are a part of the Division of Comprehensive Planning and Design.

Design is defined as devising innovative courses of action to change existing situations into preferred situations. This definition translated into the educational purpose of the Design program means that our prime responsibility is to develop within our participants generalized abilities to cope effectively with multi-faceted design problems.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	3
GSB	Social Studies (select)	3	3
GSC	Humanities (select)	-	3
GSC 205	Innovation for the Contemporary Environment	3	-
GSD 101	English Composition	3	-
GSD 117, 118, 119	Writing (select)	-	2
GSD 152, 153	Interpersonal Communication or Public Speaking	3	-
GSE	Human Health and Well Being (select)	1	1
DES 102	Design Fundamentals	-	5
		<u>15</u>	<u>17</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	-
GSB	Social Studies (select)	-	2
GSC	Humanities (select)	3	3
GSD 107	Intermediate Algebra	4	-
GSE	Human Health and Well Being (select)	1	1
DES 201	Survey of Design	-	3
Elective		5	5
		<u>16</u>	<u>15</u>

Third and Fourth Years

If not completed at the junior college level, GSC 205 should be taken the first semester the transfer student is at SIUC. Other courses taken the last two years will include additional design core, professional preparatory and elective courses. Three options are available: product design, urban planning, and visual communications.

Product design prepares a student for careers designing a very broad range of items for a great diversity of uses, such as medical/therapeutic products, playground/recreational equipment, toys and games, and household artifacts.

Visual communications prepares a student to design a variety of items meant specifically to carry a message to the user/buyer. These items include such things as new letterheads and forms with logos for a corporation, point-of-sale displays and advertising, layout of proposals, brochures and annual reports, signage, and environmental communications.

The urban planning specialization prepares a student to analyze the needs for environmental control in building and in urban environments, to prepare site analyses in relation to structures and large developments and to develop skills in client interaction and advocacy.

Representative First Job Titles: Story Illustrator, Advertising Layouts Specialist, Billboard Designer, Displays Organizer, Greeting Cards Designer, Annual Report Designer, Television Commercials Specialist, Title Cards and Set Designer, Fashion Illustrator, Architectural Assistant, Airbrush & Photo Retouching Artist, Graphic Processes Specialist, Graphic Designer, Advertising Illustrator, Copywriter, Fashion Designer, Community Planner, Typographic Designer, Cameraman, Technical Illustrator, Systems Evaluator, Technical Sales Representative, Publications Assistant, Manufacturer's Representative.

EARLY CHILDHOOD EDUCATION
(K-3)
College of Education
(Bachelor of Science)

Dr. Billy Dixon, Chairperson
Telephone - 618-453-2239
Wham Building, Room 327

M. Frances Giles, Coordinator
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Following are the requirements for the Bachelor of Science degree with a concentration in early childhood education which meet the minimum requirements for a standard Elementary School Certificate.

In addition to general University and College of Education requirements, a student must meet all prerequisites to student teaching and should study the section in the Undergraduate Catalog which lists such requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	3	3
GSC 100	Music Understanding ²	-	2
GSC 101	Introduction to Art	3	-
GSD 101	English Composition ²	3	-
GSD 152	Interpersonal Communication ²	2	-
GSD 117	Expository Writing ²	-	2
GSE	Human Health and Well Being (select) ²	2	-
GSE 201	Healthful Living ²	-	2
Ed 201	Teacher's Role in Public School Education	-	1
CIM 213	Understanding the Elementary School Child	-	3
		<u>16</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 202	Introduction to Psychology ²	3	-
GSB 300 or 301	History of U.S. ²	-	3
GSC	Literature (select) ² (or English required)	3	-
Math 114	Algebraic and Arithmetic Systems	4	-
PE 202	Physical Activity for Children and Youth	3	-
Math 314	Math for Elementary Teachers	-	3
Mus 101	Music Fundamentals	-	3
GSC	Fine Arts	-	3
		<u>16</u>	<u>15</u>

¹See section on General Studies for the Transfer Student.

²Required for certification.

Early Childhood Education (K-3) As A Major

Students who plan to teach grades K-3 should major in Early Childhood Education.

Students should also refer to the section in this handbook specifying the requirements for entrance into the Formal Teacher Education Program.

For the last decade educators have become increasingly aware of the importance of providing quality care and guidance for the preschool child. This program has been designed for persons interested in the education of children 0-6 years of age. It is offered jointly by the College of Education and the College of Human Resources. Students following this program will meet state certification requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 202	Introduction to Psychology ³	3	-
GSC 100	Music Understanding ³	2	-
GSC	Humanities (Art & Music are required) ^{2,3}	-	3
GSD 101	English Composition ³	3	-
GSD 117 or 119	Expository or Creative Writing ³	-	2
GSD	Mathematics	4	-
GSD	Speech (select) ¹	-	2
GSE	Human Health and Well Being (select) ³	-	2
GSE 201	Healthful Living ³	-	2
Elective		-	1
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 212,300 or 301	American Government or U.S. History ³	3 (4)	-
GSB	Social Science (select) ¹	-	3
GSC	Humanities (select) ¹	3	3
C&F 227	Marriage and Family Living	3	-
C&F 237	Child Development	3	-
F&N 100	Fundamentals of Nutrition	-	3
Psyc 301	Child Psychology	-	3
Elective		-	3
		<u>15 (16)</u>	<u>15</u>

¹See section on General Studies for the Transfer Student.

²Under Humanities, Music 101 is to be substituted for GSC 100. Art may be GSC 101, 204, 205 or Art 100.

³Certification requirements include GSB 202; GSB 212, 300 or 301; GSC 100; an Art class; GSD 101; GSD 117 or 119; GSE 201; and GSE 100-114.

Refer to the Undergraduate Catalog for additional information on this program.

Specific General Studies courses listed are required for this program.

Faculty have varied interests in Child Development/Family Relations, retardation, motivation of the child, sex education.

Excellent facilities--Child Development Laboratory with observation booth.

The Economics major consists of 31 semester hours. Of these, 16 hours are required courses. With 15 hours remaining, a student can choose courses in the following areas: Comparative Systems, Economic Development, Economic History, Economic Theory, Econometrics, Human Resources, International Economics, Money and Banking, Political Economy, Public Finance. The flexibility permitted by the electives available makes possible a program tailored to meet the needs of individual career preparation plans.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118, or 119	English Composition and Writing (select) ¹	3	2
GSD	Speech (select) ¹	-	2 (3)
MATH 116	Finite Mathematics and Algebra ^{2,4}	5	-
GSE	Human Health and Well Being (select) ¹	2	-
MATH 117	Finite Mathematics and Calculus ^{2,4}	-	5
		<u>16</u>	<u>15-16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select)	-	3
GSC	Humanities (select) ¹	-	3
GSC or FL	Humanities (select) ¹ or Foreign Language ³	3 (4)	3 (4)
GSE	Human Health and Well Being (select) ¹	2	-
*ECON 214, 215	Introduction to Macro and Micro Economics ⁴	3	3
Elective ⁵		3	3
		<u>14-15</u>	<u>15-16</u>

¹To determine what courses may be taken to satisfy the general education requirements, please refer to the section, General Studies for the Transfer Student.

²One of these courses is required by the major and may also be used to fill the General Studies mathematics requirements; the other may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁴Part of Economics major requirement. Economics 214 also satisfies part of GSB requirements.

⁵Elective hours should be used in the following ways: 1) students may explore areas of interest or 2) arrange a program tailored to meet specific career objectives. For example students interested in a career in business or government should consider taking elective courses in accounting and other business subjects and computer science. Those considering graduate study in economics are encouraged to take several courses in mathematics.

Economics As A Major

Students majoring in economics find jobs in various areas of business, including banking and finance, industry, trade, and utilities to name a few. Many economics majors go to work for government agencies at all levels--federal, state, and local. For example several SIUC graduates with economics majors have been hired by the Illinois Bureau of the Budget and other state agencies. Majoring in economics is also widely considered to be excellent preparation for graduate study in business, law or any of the social sciences. The requirements for a major in economics are very flexible with 29-36 hours of electives.

To Counselors

We recommend that high schools students thinking of majoring in economics in college take as much English (composition and literature), mathematics, government, and history as possible. If economics is offered, that, of course, is recommended too.

For community college students interested in economics, we recommend principles of macro and micro economics, English, and mathematics in addition to (or part of) general education courses.

Representative First Job Titles: Market Research Analyst, Econometrician, Economic Analyst, Economic Forecaster, Finance Administrator, Budget Analyst, Gov't Economic Enterprises Studies Officer, International Banking Officer, International Trade Economist, Investment Analyst, Loan Administrator, Industrial Economist, Manufacturer's Representative, Production Supervision, Price Economist, Transportation Economist, Labor Economist, Business Planner, Economic Geographer, Legislative Aide, Population Economic Analyst, Right-of-Way Agent, Tax Economist, Urban Economist.

ELECTRONIC DATA PROCESSING

School of Technical Careers
(Associate in Applied Science)

Byron Johnson
Program Coordinator
Telephone - 618-536-6682 ext. 268
Faner Building, A-2040

The growth of electronic data processing both in the expansion of installations and in the complexity of hardware and software has increased the need for competent computer programmers and systems analysts. Accurate and effective information processing is essential in any organization or institution.

The curriculum in electronic data processing prepares students for employment as business computer programmers and systems analysts. Skills which the graduate obtains include competency in programming languages (such as COBOL, Assembler, and RPG) and associated areas such as accounting and systems design and development.

An outstanding feature of the program at the School of Technical Careers is the availability of an IBM 370 computer system and a prime computer system for batch and interactive use. The hardware and software configuration is representative of large computer installations in industry. The data center is accessible for approximately 100 hours per week.

Lab fees may be required for certain programming courses.

An advisory committee of professional people and educators helps to keep the program responsive to needs in the field.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
STC 120, 220	Applied Accounting	3	3
STC 102 or GSD 118	Technical Writing	-	2
EDP 101	Introduction to Data Processing	3	-
EDP 102	Introduction to Programming	3	-
EDP 206	RPG Programming	-	3
EDP 104	Data Processing Applications	3	-
EDP 103	Cobol Programming I	-	3
GSD 153	Public Speaking	-	3
		<u>15</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Approved Social Science elective	3	-
EDP 203	Job Control Language and Utilities	3	-
EDP 204	COBOL Programming II	3	-
EDP 205	Systems Design and Development	-	3
EDP 207	DP Project	-	6
EDP 201	Assembler Language Programming	-	4
STC 210A	Job Orientation	2	-
Electives	Approved Technical Electives	<u>6</u>	<u>3</u>
		<u>17</u>	<u>16</u>

Electronic Data Processing As A Major

A minimum of 60 hours of credit must be completed for graduation.

Students may begin the program in the Spring semester, but five semester may be required for completion.

Representative First Job Titles: Computer Programmer, Systems Analyst.

The Electronics Technology program provides instruction for the education of semiprofessional electronics technicians who are capable of taking places in industry in both indirect and direct support of the electronics engineer, and to provide training both practical and theoretical experiences in all phases of electrical power transmission.

Students will gain a thorough understanding of AC-DC and active element circuits so that they can design, construct, test and analyze new types of circuitry. They will learn digital circuits, as well as industrial systems in a theory-laboratory situation where they will develop the ability to solve problems and report test results in data sheets, graphs and technical papers. They will use diagnostic analyses to troubleshoot and repair electronics equipment.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	-	3
GSD 153	Public Speaking	-	3
STC 105a,b	Technical Mathematics	4	-
ELT 101	DC-AC Circuit Analysis Theory	5	-
ELT 111	DC-AC Circuit Analysis Lab	6	-
ELT 121	Electronic Devices	3	-
ELT 102	Electronics Circuits Theory	-	5
ELT 112	Electronics Circuits Laboratory	-	6
ELT 224	Computer System Applications	-	3
		<u>18</u>	<u>20</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
STC 102 or			
GSD 118	Technical Writing	-	2
STC 107a,b	Applied Physics	4	-
ELT 201	Telemetry and Industrial Circuits Theory	5	-
ELT 211	Telemetry and Industrial Circuits Lab	6	-
ELT 221	Electronic Systems Analysis	3	-
ELT 202	Digital Electronics Theory	-	5
ELT 212	Digital Electronics Laboratory	-	6
EDP 107 or	Electronic Data Processing Concepts or		
EDP 217 or	Computing for Business Administration or		
CS 202 or	Intro to Computer Programming or		
CS 212 or	Intro to Business Computing	-	3
ELT 223 or	FCC Test Preparation		
ELT 122	Communications Fundamentals	-	3
		<u>18</u>	<u>19</u>

Electronics Technology As A Major

Graduates are employed by major corporations such as: General Electric, Emerson Electric, Bell Research Laboratories, I.B.M., General Tire and Rubber Company, Digital Equipment Corporation, Texas Instruments, and General Telephone (Automatic Electric). About eighty percent of these graduates work in indirect support positions and the remaining twenty percent in direct support positions.

During the first year of the program, most instruction is directed toward basic principles of electricity and electronics. This is followed by digital circuits and industrial systems. These applications are based on transistor and integrated circuitry.

Workbooks and supplies required for laboratory courses cost approximately \$150.

A minimum of 72 hours of credit must be completed for graduation.

Third year options include bio-medical electronics, optoelectronics, and microcomputer construction for which an associate's degree is required.

Representative First Job Titles: Electronics Technician, Bench Technician, Repair Analysis Technician, Bio-medical Technician, Instrument Engineer, Technical Sales Representative, Customer Technician, Quality Control Technician, Field Technician, Field Engineer, Customer Engineer.

ELEMENTARY EDUCATION (K-9)
College of Education
(Bachelor of Science)

Dr. Billy Dixon, Chairperson
Telephone - 618-453-2239
Wham Building, Room 327

M. Frances Giles
Coordinator of Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Following are the requirements for the Bachelor of Science degree with a concentration in elementary education which meet the minimum requirements for a standard Elementary School Certificate.

In addition to general university and College of Education requirements, a student must meet all requirements pertaining to prerequisites to student teaching and should study the section in the Undergraduate Catalog which lists such requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	3	3
GSC	Humanities, Fine Arts (select) ^{1,2}	3	3
GSD 101	English Composition ²	3	-
GSD 117	Expository Writing ²	-	2
GSD 152	Interpersonal Communication ²	2	-
GSE	Human Health and Well Being ²	2	-
GSE 201	Healthful Living ²	-	2
LANGUAGE ARTS	(select) ²	-	3
ED 201	Teacher's Role in Public School Education	-	1
		<u>16</u>	<u>17</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	2
GSB 202	Introduction to Psychology ²	3	-
GSB 300 or 301	History of U.S. ²	-	3
GSC	Literature (select) ² (or English required)	3	-
MATH 114	Algebraic and Arithmetic Systems	3	-
GSE	Human Health and Well Being (select) ^{1,2}	-	1
MATH 314	Math for Elementary Teachers	-	3
MUS 101	Music Fundamentals (or GSC Music)	-	2
LANGUAGE ARTS	(select) ²	-	3
GSB 212	Introduction to American Government and Politics ²	4	
Elective	(select)	<u>3</u>	<u>-</u>
		<u>16</u>	<u>17</u>

¹See section on General Studies for the Transfer Student.

²Certification requirements.

Elementary Education (K-9) As A Major

Students who plan to teach children from grades K-9 and specifically grades 4-6 should major in Elementary Education.

All students should refer to the section in the handbook specifying the requirements for entrance into the Formal Teacher Education Program.

ENGINEERING

(Electrical Sciences & Systems Engineering)
(Engineering Mechanics & Materials)
(Mining Engineering)
(Thermal & Environmental Engineering)
College of Engineering and Technology
(Bachelor of Science)

Dr. Vernold Feiste (ESSE) Phone 618-536-2364
Dr. Philip Davis (EM&M), Phone 618-536-2368
Dr. J. W. Chen (T&EE), Phone 618-536-2396
Mr. Rodney Caudle (MNGE), Phone 618-536-6637
Technology Building

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind.

The four-year undergraduate program leading to the Bachelor of Science degree in engineering is a modern, flexible curriculum with four special options. The options in Electrical Sciences and Systems Engineering, Engineering Mechanics and Materials, and Thermal and Environmental Engineering are fully accredited by the Accreditation Board for Engineering and Technology (ABET, formerly ECPD). Accreditation for the new Mining Engineering option (est. Fall 1979) will be sought promptly.

First Year		Fall	Spring
*ENGR 100	Introduction to Engineering	3	-
GSB	Social Sciences (select) ^{1,2}	3	-
GSC	Humanities (select) ^{1,2}	3	3
*GSD 101 & 118	English Comp. & Technical Report Writing ^{1,2}	3	2
GSE	Human Health and Well Being (select) ^{1,2}	1	1
*CHEM 224, 225	Intro. to Chemical Principles and Lab ³	-	7
*MATH 150, 250	Calculus I & II ³	4	4
		17	17
Second Year		Fall	Spring
*ENGR 222	Computational Methods for Engineers	2	-
*ENGR 260a,b	Mechanics of Rigid Bodies (Statics and Dynamics) ⁴	2	3
*GSA	Introductory Biology, Physiology, or Geology ²	3	-
GSB	Social Studies (select) ^{1,2}	-	3
GSC	Humanities (select) ^{1,2}	-	3
*GSD	Speech	2 (3)	-
*MATH 251, 305	Calculus III and Differential Equations I	3	3
*PHYS 205, 255	University Physics and Lab ³	4	4
		16 (17)	16

*Required courses for a major in Engineering.

¹ See General Studies for the Transfer Student.

² Major requirements due to accreditation standards must include 16 hours of Humanities and Social Studies; 6 or 7 hours of oral and written communications and 18 hours of basic science.

³ Substitutes for General Studies requirements.

⁴ Engr 260b is optional for ESSE students.

Engineering As A Major

To advance to upper division courses and be classified under a specific departmental major, a pre-engineering student must have completed the following five courses or their accepted equivalencies with a minimum grade of C in at least four of the five courses: Mathematics 150, 250 and 251; Chemistry 222A or 224; Physics 205A.

To remain in the College, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in engineering used in determining the major grade point averages are courses with the prefix ENGR, EMM, ESSE, MNGE and TEE.

Transfer students from community colleges or other institutions should have strong backgrounds in the physical sciences, social sciences, and humanities. Students are encouraged to complete specific freshman and sophomore course requirements which include 3 hours of English Composition, 2 hours of Technical Writing; 2 hours of Speech; 8 hours of University Physics; 7 hours of Chemistry; 11-14 hours of Math, including Calculus; 2 hours of Analytical Mechanics (Statics); and 3 hours of Graphics or Introduction to Engineering. Calculus is a prerequisite for most junior-level courses.

The engineering program is designed to provide a basic foundation for the professional engineer. Students with Bachelor of Science degrees in Engineering will have an opportunity to specialize further at the graduate level.

Representative First Job Titles: Mechanical Engineer, Electrical Engineer, Civil Engineer, Structural Engineer, Plant Engineer, Product Development and Design Engineer, Product Application & Test Engineer, Sales, Operations Research Analyst, Hydrologist, Patent Engineer, Quality Assurance Specialist, Communications Engineer, Computer Engineer, Environmental Protection Engineer.

ENGINEERING TECHNOLOGY

(Civil)
(Electrical)
(Mechanical)
College of Engineering and Technology
(Bachelor of Science)

Dr. Lee Rogers
Telephone - 618-536-3396
Technology Bldg, Room D-109

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer at the end of the spectrum closest to the engineer.

All curricula in Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (formerly ECPD). These include the Civil Engineering Technology, Electrical Engineering Technology, and Mechanical Engineering Technology curricula.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
CHEM 140a	Chemistry ²	-	4
GSA	Social Science (select)	3	3
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
GSE	Human Health and Well Being (select)	2	-
ET 103, 104	Engineering Drawing I, II	3	3
MATH 111	College Algebra and Trigonometry ²	5	-
MATH 150	Calculus I	-	4
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	-	3
GSC	Humanities (select)	-	3
GSD 153	Public Speaking	2	-
ET 245a	Electrical Systems for Industry	-	3
ET 260a,b	Principles of Mechanics, Statics & Dynamics	4	3
MATH 250	Calculus II	4	-
PHYS 203a,b & 253a,b	College Physics and Lab ²	4	4
ENGR 222	Computational Methods	<u>2</u>	-
		<u>16</u>	<u>16</u>

¹ Student specializing in Civil Engineering Technology will substitute ET 202 for ET 104.

² Substitutes for General Studies.

Engineering Technology As A Major

To advance to upper division courses and be classified under a specific departmental major, a pre-engineering technology student must have completed the following four courses or their accepted equivalencies with a minimum grade of C in at least three of the four courses: Mathematics 111 and 150; ENGR 222 and Chemistry 140A or Physics 203A.

To remain in the College, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in engineering technology used in determining the major grade point averages are courses with the prefix ET.

A minor is not required. Foreign language is not required.

The amount of transfer credit (including occupational-technical credit) which can be applied to this program depends upon the nature of the credit to be transferred and the specific area requirements. The technology curricula are flexible enough to provide the means whereby graduates of two-year occupational programs can obtain a bachelor of science degree in a minimum length of time.

For the bachelor's degree the recommended guidelines in a specific subject matter area provide for a minimum of 23 semester hours of mathematics and basic science, 23 semester hours of communications, humanities, and social studies, and 45 semester hours of technical science and technical specialty courses.

Employment opportunities for graduates with B.S. degrees in Engineering Technology are excellent. Graduates are employed in the communications industries, electronic and electrical industries; by transportation industries and consulting firms; by federal, state, and local agencies; in the power and energy industries, in machinery manufacturing companies, and in many other areas.

Representative First Job Titles: Hardware Design & Development, Product Analysis & Development, System Operation, Process Management, Technical Sales and Service, Director of Engineering Technicians, Assistant Plant Engineer, Junior Field Engineer, Engineering Technician, Technical Representative, Personnel Dept. Trainee, Sales Engineer, Software Trainee Engineer, Assistant Engineer, Customer Tooling Engineer, Test Engineer, Senior Systems Designer.

The English Education major is designed to give the student a thorough background in composition, language, and literature. The various forms of English, American and world literature, contemporary and historic, are studied. The undergraduate major is preparatory for teaching at the secondary level, graduate study, or positions requiring effective communication of ideas.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	-
GSB 212, 300 or 301	American Government or U.S. History	3 (4)	-
GSB 202	Introduction to Psychology	-	3
GSC	Humanities (select) ²	3	3
GSD 101	English Composition	3	-
GSD 117	Expository Writing	-	2
GSD 107	Intermediate Algebra	-	4
GSE	Human Health and Well Being	2	-
ED 201	Teacher's Role in Public School Education	-	1
Electives ³		<u>2</u>	<u>3</u>
		16 (17)	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSB	Social Studies (select) ²	-	3
GSC	Humanities (select) ²	-	3
GSD 153	Public Speaking	2	-
GSE 201	Healthful Living	2	-
*ENG 209	Introduction to Forms of Literature	3	-
Electives ³		<u>5</u>	<u>6</u>
		15	15

*Approved substitute for General Studies.

¹See also the program under the College of Liberal Arts.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³Elective hours should be used in the following ways: (1) students may explore areas of interest; (2) they may select a minor.

English As A Major

The following specific General Studies courses are required for teacher certification (these courses may be completed during the freshman and sophomore years): GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics, or GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical or Creative Writing; GSD 153, Public Communication; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

ENGLISH
(General)
(Pre-Graduate Study)
(Preprofessional)
College of Liberal Arts
(Bachelor of Arts)

Dr. William E. Simeone - Chairperson
Telephone - 618-453-5321
Faner 2370

The general background in English is designed for the student who desires a broadly based general education leading to a Bachelor of Arts degree with a concentration in English, American and world literatures, with study in the various forms of literature, contemporary and historic. This specialization is preparatory for graduate study and positions requiring effective communication of ideas, such as in publishing.

If you have an excellent undergraduate record, a taste for literary analysis and criticism, and a desire to teach young adults rather than adolescents, you might want to consider college teaching as a career. This specialization, which allows a great deal of flexibility in choosing upper-division courses, is specifically designed for the student planning to attend graduate school. The program is designed to give the student a thorough background in composition, language, and literature, both contemporary and historic.

The preprofessional specialization in English is designed for the student who has interest in refining his or her composition and language abilities in order to prepare for work in such fields as law, business, government, publishing, etc. The program may be particularly attractive to the pre-law student in its emphasis on language and communication. Courses in literature are included for the refinement of the student's language awareness, especially analysis.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSD	Speech (select) ¹	-	2(3)
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ¹	2	2
		14	16-17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	-
GSC or FL	Humanities (select) ¹ or Foreign Language ²	3 (4)	3 (4)
ENG	English Literature ³	-	3
ENG	American Literature ³	3	-
MATH or CS	Mathematics or Computer Science ⁴	-	3
Elective ⁵		3	4
		15-16	13-14

¹See General Studies for the Transfer Student.

²Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

³Required by the major.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

English As A Major

A major goal of general education, pre-graduate study and preprofessional specializations is to educate students to write clearly and effectively, to read precisely with insight and understanding and to know the history, the artistry, and the humane values of our linguistic and literary heritage. Students who wish to declare English as a concentration should consult the department's director of undergraduate programs as soon as they know they will major in English. If possible, transfer students should contact a departmental advisor before their first registration at SIUC. Any of the English options may be modified by entry into the departmental honors program.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

The major in English may be pursued through the College of Liberal Arts or the College of Education if you are considering teaching English in secondary schools as a profession. The program is designed to give the student a thorough background in composition, language, and literature. The various forms of English, American and continental literature, contemporary and historic, are studied. The undergraduate major is preparatory for teaching, graduate study, or positions requiring effective communication of ideas.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
GSB 202	Introduction to Psychology ²	-	3
GSC	Humanities (select) ¹	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ^{1,2}	3	2
GSD 153	Public Speaking ²	-	2 (3)
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being--activity (select) ^{1,2}	-	2
GSE 201	Healthful Living ²	<u>2</u> 14	<u>-</u> 16 (17)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212, 300 or 301	Intro. to Am. Gov't or U.S. History	3 (4)	-
GSA	Science (select) ¹	3	-
GSC or FL	Humanities (select) ¹ or Foreign Language ³	3(4)	3(4)
ENG	English Literature ⁴	-	3
ENG	American Literature ⁴	3	-
MATH or CS	Mathematics or Computer Science ⁵	-	3
Elective ⁶		<u>3</u> 15-17	<u>4</u> 13-14

*See also the program under the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Required for teacher certification.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, for of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁴Required by the major

⁵One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁶Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

English As A Major

Students who wish to declare English as a concentration should consult the department's director of undergraduate programs as soon as they know they will major in English. If possible, transfer students should contact a departmental advisor before their first registration at SIUC.

Students interested in this program should make themselves aware of the requirements for entering the Teacher Education Program, explained elsewhere in this text. The Department of English requires a 2.50 G.P.A. in the major and successful ("C" or better) completion of English 300, Introduction to Language Analysis, for recommendation to Unconditional Status in the Teacher Education Program.

Any of the English options may be modified by entry into the departmental honors program.

Students who wish to pursue and refine an interest in literature and language through their creative abilities may choose this specialization. The equivalent of seven courses, beyond the core curriculum required of all English majors, are offered on-campus, culminating in a senior writing project--a directed written project such as a collection of short stories or poems, a novel or a play. All instructors of these courses are people who have published their own creative writing and the major thrust of the work will be toward publication. An alternative to the senior project may be an internship in a publishing firm if appropriate arrangements can be made.

First Year		Fall	Spring
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
GSD 101, 119	English Composition and Creative Writing ²	3	2
GSD	Speech (select) ¹	-	2 (3)
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ¹	2	2
		14	16 (17)
Second Year		Fall	Spring
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	-
GSC or FL	Humanities (select) ¹ or Foreign Language ³	3 (4)	3 (4)
ENG 281,282,283	Beginning Fiction, Poetry, Drama ²	3	3
MATH or CS	Mathematics or Computer Science ⁴	-	3
Elective ⁵		3	6
		15 (16)	15 (16)

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Required by the major. The student should select two courses from 281, 282, or 283

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

English As A Major

Students interested in general writing and creative writing are strongly urged to confer with the director of undergraduate programs in English as soon as possible. The unique design of this specialization requires a great deal of advisement and consultation in order to insure that students go through the proper sequence of courses. If possible, transfer students should contact a departmental advisor before their first registration at SIUC.

Any of the English options may be modified by entry into the departmental honors program.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

FAMILY ECONOMICS AND MANAGEMENT

(Consumer Services in Business Option)

Division of Human Development

College of Human Resources

(Bachelor of Science)

Thomas Brooks

Acting Divisional Executive Officer

Telephone - 618-536-5541

Quigley Hall, 4th Floor

This specialization prepares students for professional opportunities in consumer affairs in industry and government. Special emphasis is placed on the role of the consumer in the marketplace and the consumer's relationship to private enterprise and government agencies. A key focus of the program is the application of concepts and the critical analysis of problems and issues affecting the consumer's interests and choices.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	3	3
*GSB 203	Sociological Perspective	4	-
GSC	Humanities (select)	-	3
GSD 101 and 117 or			
118	English Composition and Writing (select)	3	2
GSD 153	Public Speaking	-	3
GSD	Mathematics ¹	4	-
GSE	Human Health and Well Being (select)	1	1
Elective		-	3
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	-	3
*GSB 202	Introduction to Psychology	3	-
*GSB 211	Contemporary Economics	-	3
GSC	Humanities (select)	3	3
GSE	Human Health and Well Being (select)	2	-
GSA, B, C	select ¹	2	-
Electives	(accounting recommended)	5	6
		<u>15</u>	<u>15</u>

*Required General Studies. See section on General Studies for the transfer student.

¹ Refer to General Studies for the transfer student.

Third and Fourth Years

The last two years of a student's program concentrate on specialized objectives and departmental requirements. It includes the following areas: consumer resources and problems, housing concerns, consumers in the market, family financial management, business law, and public relations. In their senior year, students participate in an internship and take a course preparing them to identify consumer affairs positions.

Graduates may work in a variety of industries (insurance, banking airlines, utility companies, food retailers, food processors) and governmental agencies (local consumer affairs offices, FTC, FDA).

Representative First Job Titles: Consumer Services Specialist, Consumer Relations or Customer Relations Officer, Trade Association Specialist, Consumer Affairs or Information Specialist, Consumer Educator, Community Liaison Specialist.

FAMILY ECONOMICS AND MANAGEMENT

(Family Service Consultant Option)

Division of Human Development

College of Human Resources

(Bachelor of Science)

Thomas Brooks

Acting Divisional Executive Officer

Telephone - 618-536-5541

Quigley Hall, 4th Floor

This specialization is designed to give students a knowledge and understanding of the family's management and allocation of resources. This option prepares students for employment in public and private welfare agencies, cooperative extensions and local government and other programs. The low-income family is of particular interest in this specialization. Elective courses should reflect the student's personal employment goals. The program is tailored to meet the theoretical as well as applied concepts in preparing students to serve individuals and families of various ages, physical abilities, and income levels.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 203	Sociological Perspective ²	4	-
GSC	Humanities (select) ¹	-	3
GSD 101, and 117 or 118	English Composition & Expository or Technical Report Writing ²	3	2
GSD 153	Public Speaking ²	-	3
GSD	Mathematics ¹	4	-
GSE	Human Health and Well Being ¹	1	1
Electives		-	3
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB 202	Introduction to Psychology ²	3	-
GSB 211	Contemporary Economics ²	-	3
GSC	Humanities (select) ¹	3	3
GSE	Human Health and Well Being (select) ¹	1	1
GSA, B, C	select ¹	-	2
F&N 100	Fundamentals of Nutrition	3	-
Electives		<u>5</u>	<u>3</u>
		<u>15</u>	<u>15</u>

¹ Refer to section on General Studies for the transfer student.

² Required General Studies. See section on General Studies for the transfer student.

Third and Fourth Year

Studies during the third and fourth years emphasize departmental requirements and advanced courses in Family Economics and Management. They include the following areas: consumer resources and problems, housing concerns, family financial management, management for low-income families, consumer health, marriage and family living, and family counseling. In their senior year, students participate in an internship experience.

No minor required. No foreign language required.

Representative First Job Titles: Patient Service Rept. (Hospital), Social Welfare Agency Worker, Senior Citizens Agency Worker, Credit Counselor, Household Finance Specialist.

FINANCE

(Financial Management Option)
(Financial Institutions Option)
College of Business and Administration
(Bachelor of Science)

Dr. Iqbal Mathur, Chairperson
Telephone - 618-453-2459
General Classrooms Bldg., Room 120

The financial implications of decisions in both business and government are daily becoming more complex. Within the firm, financial considerations permeate the central decisions of research, engineering, production and marketing. Within governmental activities, sophisticated financial techniques are becoming increasingly important. The financial executive thus takes a key role in the successful management of both business and governmental operations.

The finance curriculum offers two areas of specialization to meet the varied interest of the students: (1) financial management and (2) financial institutions. The financial management program provides the background for a career in the financial operations of business firms and public institutions. The financial institutions specialization is designed for those interested in the operations of financial intermediaries and financial markets.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
*GSB 202	Introduction to Psychology	-	3
GSC-3 or	Humanities (select) ¹ or Human Health		
GSE-2	and Well Being (select) ¹	3 (2)	-
GSC	Humanities (select) ¹	-	3
*GSD 101 & 117, 118 or 119	English Composition & Writing (select) ¹	3	2
*MATH 116-5 or 139-3	Finite Mathematics and Algebra or Finite Mathematics	3 (5) -	- 4
*ADSC 208	Interpretation of Business Data	15 (16)	15 (16)
<u>Second Year</u>			
*ACCT 220, 230	Financial, Managerial Accounting	3	3
*CS 212 or EDP 217	Intro. to Computer Programming (PL1) or Computing for Business Admin. (Fortran)	-	3
*MATH 117 or 140-4	Finite Mathematics and Calculus or Short Course in Calculus	4 (5)	-
*ECON 214, 215	Economics, Macro and Micro ²	3	3
GSA	Science (select) ¹	-	3
*GSD 153 or 152	Public Speaking or Interpersonal Communication	3 (2)	-
GSC-3 or GSE-2	Humanities (select) ¹ or Human Health		
	and Well Being (select) ¹	3 (2)	-
GS- ---	General Studies Electives	-	4
		16 (15)	15

*Required course for a major in Finance.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Econ 214 or 215 counts toward GSB credit.

Finance As A Major

Neither minor nor foreign language required.

Graduate degree available: MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is recognized by the American Assembly of Collegiate Schools of Business (AACSB).

See College of Business and Administration listing for their retention policy.

Representative First Job Titles: Internal Auditor, Finance Administrator, Financial Analyst, Trust Administrator, Wage-Salary Administrator, Systems Analyst, Inventory Controller, Credit Analyst, Investment Analyst, Operations Research Analyst, Budget Administrator, Consumer Researcher, Controller, Credit Manager, Finance Officer, Financial Management Intern, Bursar Assistant (College), Grant Coordinator (College), Assistant Fiscal Officer, Assistant to the Paymaster, Payroll and Assignment Supervisor, Assistant to the Director of Finance, Head Cashier, Financial Planning Agent, Loan Administrator.

FLIGHT TRAINING
(Courses)

Ronald D. Kelly, Director
Air Institute & Services
Southern Illinois Airport
Telephone - 618-529-2681
Office of Admissions & Records
Woody Hall
Telephone - 618-453-4381
or toll free in Illinois
(800)642-3531

Flight is by its very nature interdisciplinary. Today's professional pilots must not only pursue and maintain the highest level of flight proficiencies, they must also develop allied competencies which give them realistic career alternatives within the aviation industry. There is not a specific degree in flight offered by SIUC, but interdisciplinary opportunities are abundant.

The program of flight instruction at SIUC is unique, in that it has the flexibility to accommodate any student, whatever his or her academic interest. For many it means taking flight courses as electives within traditional programs such as Business and Administration. For others it means combining flight courses with one of the University's Aviation Technology programs for an associate degree. Many students, particularly graduates from Technical Aviation programs in community colleges, enter the University through Project "Capstone". This unique program offers a variety of baccalaureate degrees. Three Capstone programs are particularly well suited for the technical aviation community college graduate. These are Industrial Technology, Occupational Education, and the individualized programs offered by the School of Technical Careers.

Students who are interested in flying professionally but who are unsure as to which academic program to pursue, may enter the University with an undecided major. This will allow them to immediately start their flight training while working with an advisor toward the selection of a degree program.

Flight Training at SIUC is conducted by the SIU Air Institute located at the Southern Illinois Airport, approximately 3 miles from the main campus. Bus transportation to and from the Airport is provided by the University. The SIU Air Institute is an FAA 141 approved certified Pilot School with examining authority, providing comprehensive flight training which includes the most basic rating (Private Pilot) to the most advanced rating (Airline Transport Pilot).

Substantial costs are incurred by students pursuing professional aviation. Realistically, students should plan on spending between \$8,000 - \$10,000 in order to obtain the flight qualifications needed for employment. These flight costs are in addition to tuition and fees, room and board, etc.

Students should be encouraged to contact the faculty at the SIU Air Institute or counselors located in the Office of Admissions for more specific information relative to degree options, flight costs and additional training alternatives such as Air Force ROTC and Army ROTC.

FOOD AND NUTRITION

(Dietetics)

Division of Human Development

College of Human Resources (Bachelor of Science)

Thomas Brooks

Acting Divisional Executive Officer

Telephone - 618-536-5541

Quigley Hall, 4th Floor

These courses give a strong scientific education to those interested in becoming dietitians in hospitals, college dormitories, industrial plants, health clinics, laboratories, or public health and welfare organizations. They meet the requirements of the American Dietetics Association.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 115	Biology ¹	3	-
GSA 104 or 203	The Human Experience: Anthropology or Sociological Perspective ¹	3	-
GSC	Humanities (select) ²	3	3
GSD 101	English Composition	3	-
GSD 118 or 119	Technical Report Writing or Creative Writing ¹	-	2
GSD 107	Intermediate Algebra ¹	-	4
GSD	Speech (select) ²	2 (3)	-
GSE	Human Health and Well Being (select) ²	1	-
F&N 100	Fundamentals of Nutrition	-	3
EDP 107	Electronic Data Processing Concepts	-	3
		15 (16)	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 202	Introduction to Psychology ¹	3	-
GSA 211	Contemporary Economics ¹	-	3
GSC	Humanities (select) ²	3	-
GSA 209	Principles of Physiology ¹	-	3
GSD 112	Basic Concepts of Statistics ¹	-	2
GSE	Human Health and Well Being (select) ²	2	1
CHEM 140a,b	Chemistry ³	4	4
C&F 237	Child Development	3	-
MICR 301	Principles of Microbiology	-	4
		15	17

¹Required General Studies courses.

²Refer to section on General Studies for the transfer student.

³Chemistry 140a counts as GSA credit. The Chemistry requirement may be met by Chemistry 222a,b; 340; 352.

Third and Fourth Year

The last two years of a student's program concentrates on nutrition, food service systems, diet therapy, and experimental foods. Students may select an emphasis in general dietetics, clinical dietetics, community dietetics, or management dietetics.

Post-Baccalaureate Preparation

Students in dietetics are required by the American Dietetics Association to complete a post-baccalaureate internship or practicum in addition to their academic work. This requirement allows students to gain applied experiences in the environment of the profession.

Representative First Job Titles: Food Technologist, Food and Drug Inspector, Food Buyer, Food Industry Technician, Food Products Salesman, Food Processing Technician, Food Service Supervisor, Quality Control Technician, Agricultural Commodities Inspector, Consumer Safety Inspector, Dietician, Research for Consulting Firm, Food & Beverage Control Officer, Hospital Dietician.

FOOD AND NUTRITION

(Food and Lodging Systems Management)

Division of Human Development
College of Human Resources
(Bachelor of Science)

Thomas Brooks

Acting Divisional Executive Officer

Telephone - 618-536-5541

Quigley Hall, 4th Floor

These courses prepare students for positions as food systems managers for restaurants, hotels, school food service, public and private lodging facilities, airlines, industrial feeding, resorts, institutions, hospitals and clubs. They meet the requirements as set forth by industry, the Council of Hotel, Restaurant, and Institutional Education, and the National Restaurant Association. Through this program in the hospitality field, transfer students from community colleges also will be able to complete their baccalaureate degrees.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 115	Biology ¹	3	-
GSB	Social Sciences (select) ²	3	3
GSC	Humanities (select) ²	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ²	3	2
GSD	Mathematics (select) ²	4	-
GSD	Speech (select) ²	-	2 (3)
GSE	Human Health and Well Being (select) ²	2	1
CHEM 140a	Chemistry ³	-	4
		<hr/> 15	<hr/> 15 (16)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 209	Principles of Physiology ¹	3	-
GSB 202	Introduction to Psychology	-	3
GSC	Humanities (select) ²	3	3
GSA/B/C	Select ²	2	-
GSE	Human Health and Well Being (select) ²	2	-
F&N 100	Fundamentals of Nutrition	3	-
MICR 301	Principles of Microbiology	-	4
ACCT 220, 230	Principles of Accounting I & II	3	3
		<hr/> 16	<hr/> 13

¹ Required Areas A and B courses.

² Refer to section on General Studies for the transfer student.

³ Chemistry 140a counts as GSA credit.

Third and Fourth Year

The last two years of a student's program concentrates on courses in quantity food preparation, food service systems, and administrative sciences. Students selecting the food and lodging systems management specialization gain practical experience in a variety of aspects of quantity food production. This major stresses the functions of organization and management in the selection, preparation, delivery, and evaluation of high quality food.

Representative First Job Titles: Food Technologist, Food and Drug Inspector, Food Buyer, Food Industry Technician, Food Products Salesman, Food Processing Technician, Food Service Supervisor, Quality Control Technician, Agricultural Commodities Inspector, Consumer Safety Inspector, Dietician, Research for Consulting Firm, Food & Beverage Control Officer, Hospital Dietitian.

These courses give a strong scientific education to those interested in preparing for graduate study in food, nutrition or related discipline; for research in university, industrial or governmental laboratories; or for educational and promotional work in industry or public health organizations.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 115	Biology ¹	3	-
GSB 209	Principles of Physiology ¹	-	3
GSB	Social Sciences (select) ²	3	3
GSC	Humanities (select) ²	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ²	3	2
GSE	Human Health and Well Being (select) ²	-	2
MATH 110a,b	College Algebra ³	3	2
F&N 100	Fundamentals of Nutrition	-	3
		<hr/> 15	<hr/> 15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology ¹	3	-
GSC	Humanities (select) ²	3	3
GSD	Speech (select) ²	2 (3)	-
GSE	Human Health and Well Being (select) ²	1	1
CHEM 222a,b	Introduction to Chemical Principles ⁴	4	4
F&N 156	Fundamentals of Foods	3	-
MICR 301	Principles of Microbiology	-	4
	Electives	-	3
		<hr/> 16 (17)	<hr/> 15

¹Required areas A and B courses.

²Refer to section on General Studies for the transfer student.

³Math 110a meets the University Math requirements.

⁴Chemistry 222a counts as GSA credit.

Third and Fourth Year

The last two years of a student's program concentrate on chemistry, nutrition, and microbiology. Students in the food and nutrition science specialization gain experience in various research methodologies and develop a working knowledge of the scientific method.

Representative First Job Titles: Food Technologist, Food and Drug Inspector, Food Buyer, Food Industry Technician, Food Products Salesman, Food Processing Technician, Food Service Supervisor, Quality Control Technician, Agricultural Commodities Inspector, Consumer Safety Inspector, Dietician, Research for Consulting Firm, Food & Beverage Control Officer, Hospital Dietitian.

FOREIGN LANGUAGES (TEACHING)

(French, German, Latin,
Russian, Spanish)
College of Education

(Bachelor of Science)

M. Frances Giles
Coord. of Teacher Ed. Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Helmut Liedloff, Chairperson,
Foreign Languages
Telephone - 618-536-5571
Faner 2166

Major concentrations leading to the Bachelor of Science degree are offered in French, German, Latin, Russian, and Spanish. Courses are also offered in Chinese, Classical Greek, Italian, Portuguese, Serbo-Croatian, and Vietnamese. (Serbo-Croatian and Vietnamese are offered in cooperation with the Department of Linguistics, etc.). Programs offered in foreign languages can be preparatory for graduate study, teaching, or other positions requiring the ability to speak, read, understand, and interpret foreign languages. The federal government provides opportunities for individuals with such skills.

Many graduates with foreign language skills can find interesting opportunities with private industry, foreign news bureaus, airlines, and travel agencies as well. In addition, university and research institute libraries, and social work agencies offer varied work situations for people with foreign language facility.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 300 or 301	History of U. S.	3	-
GSB 202	Introduction to Psychology	-	3
GSD 101	English Composition	3	-
GSD 107	Intermediate Algebra	-	4
GSD 117	Expository Writing	-	2
GSE	Human Health and Well Being (select) ¹	2	-
GSE 201	Healthful Living	-	2
FL	Elementary French, German, Latin, Spanish, or Russian	4	-
FL	Continue above	-	4
ED 201	Teacher's Role in Public School Education	-	1
		15	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	-	3
GSC	English elective in Humanities (select) ¹	3	-
GSC	Humanities (select) ¹	3	3
GSD 153	Public Speaking	-	2
FL	Intermediate French, German, Latin, Russian, or Spanish	4	4
Elective		2	-
		15	15

¹Refer to section General Studies for the Transfer Student.

Courses required for certification include GSB 202; GSB 212 or GSB 300 or 301; GSD 101; GSD 117, 118, or 119; GSD 153; GSE 100-114 (2 hours); GSE 201; one additional English course from GSC, GSD, or department.

Language As A Major

Students interested in majoring in any of the offered languages should be aware of the requirements for entrance into the Teacher Education Program.

No minor is required. However, minors are available in Chinese, Greek, Latin, East Asian Civilizations, Italian, and Japanese.

Graduate degrees are available.

The forest environmental assessment option provides training in the assessment of the impact of forestry practices on the environment. Graduates of this program, after assessing alternative forest practices, are able to prescribe procedures for best preserving a healthy forest ecosystem. This option features, during the summer following the junior year, a special field study course in which case studies are utilized to illustrate the preparation of environmental impact statements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
BOT 200 & 201	General Botany with Lab ¹	4	-
CHEM 140a & b	Inorganic/Organic ¹	4	4
ZOOL 118	Introductory Zoology	-	4
GSC	Select ²	3	3
GSD 101	English Composition	3	-
MATH 140	Calculus ¹	-	4
GSE	Human Health and Well Being (select) ²	1	2
FOR 200	Introduction to Forestry	1	-
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 118	Technical Report Writing	-	2
BIOL 307	Environmental Biology ¹	3	-
ABE 204	Ag Economics	3	-
GSB	Sociology or substitute	3	-
GSC	Elective	3	-
GSD 153	Public Speaking	-	3
MATH 283	Introduction to Applied Statistics ¹	-	3
FOR 201	Ecology of North American Forests	3	-
FOR 202	Tree Identification Lab	1	-
PLSS 240	Soil Science	-	4
GSB 212	Intro. to American Government and Politics	-	4
		<u>16</u>	<u>16</u>

¹Substitutes for General Studies requirements.

²To determine what courses may be taken to satisfy the general education requirements for this major, please refer to the section, General Studies for the Transfer Student.

Third and Fourth Year

Before forestry majors will be admitted to any forestry courses at the 300 level or higher, they must have completed all freshmen and sophomore courses required for the specialization with either: 1) a grade of C or higher for each course, 2) an overall grade point average of 2.50 or higher for all courses. Students who do not meet these requirements within the first 70 semester hours of their baccalaureate work will be placed on warning and given one semester in which to comply or be terminated from the forestry program. Transfer students admitted to the forestry program with more than 45 semester hours of baccalaureate work completed elsewhere must comply within 35 semester hours following admission to the forestry program or be placed on one-semester warning status.

Students concentrate on courses in forestry and associated areas to gain the competence required to analyze and assess the environmental impact of forest management systems. Field work in environmental impact assessments is included.

Forestry As A Major

Available to the Department of Forestry for teaching and research are the following: the Crab-Orchard National Wildlife Refuge; the Shawnee National Forest; the Union State Tree Nursery and Forest; many state parks and conservation areas, and the Kaskaskia Experimental Forest, together comprising several hundred thousand acres of forest land, all in the vicinity of the University. Also accessible for wood utilization teaching and research is a modern wood products plant located at the Vocational-Technical Institute east of Carbondale. The Southern Illinois University Experimental Forest and Giant City State Park provide additional facilities for teaching and research, especially during the spring camp. In addition, 30 staff members of the U. S. Forest Service Carbondale Research Center are affiliated with the Department of Forestry and help to enrich the University's forestry program.

Representative First Job Titles: Agricultural Aid, Recreational Resource Planner, Forest Engineer, Silviculture Specialist, Forest Utilization Specialist, Forest Recreation Specialist, Range Manager, Watershed Manager, Wildlife Manager, Forest Products Technologist, Animal Ecologist, Plant Ecologist, Pollution Control Specialist, Forest Conservation Specialist, Public and Environmental Health Forester, Parks Supervisor, Grazing Lands Supervisor, Research Forester, Forest Extension Worker, Timber Manager, Park Ranger, Soil Conservationist, Forest Resources Manager.

The program in forest resources management includes instruction leading to careers in forest management and production, multiple use resource management, and the forest products industries. The specialization includes areas of study recommended by the Society of American Foresters. Emphasis is upon integrated resource management of natural and renewable resources, coordinating forest utilization methods and conservation practices, and preserving our wildlands heritage. A five-week session (Field Study) is required after the junior year to give the student practical field experience.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
BOT 200 & 201	General Botany with Lab ¹	4	-
CHEM 140a & b	Chemistry ¹	4	4
ZOOL 118	Introductory Zoology ¹	-	4
GSC	Humanities (Select) ²	-	3
MATH 140	Calculus ¹	-	4
GSD 101	English Composition	3	-
GSE 101A	Swimming	1	-
GSE	Human Health and Well Being (Select) ²	1	-
FOR 200	Introduction to Forestry	1	-
		<u>14</u>	<u>15</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
BIOL 307	Environmental Biology ¹	3	-
GSB	Sociology or substitute	3	-
GSB	Political Science or substitute	-	3
GSC	Humanities (Select) ²	-	3
GSD 118	Technical Report Writing	2	-
GSD 153	Public Speaking	-	3
MATH 283	Introduction to Applied Statistics	3	-
FOR 201	Ecology of North American Forests	3	-
FOR 202	Tree Identification Lab	1	-
PLSS 240	Soil Science	-	4
ABE 204	Agricultural Economics ¹	-	3
		<u>15</u>	<u>16</u>

¹Substitutes for General Studies requirements.

²To determine what courses may be taken to satisfy the general education requirements for this major, please refer to the section, General Studies for the Transfer Student.

Third and Fourth Years

Before forestry majors will be admitted to any forestry courses at the 300 level or higher, they must have completed all freshmen and sophomore courses required for the specialization with either: 1) a grade of C or higher for each course, 2) an overall grade point average of 2.50 or higher for all courses. Students who do not meet these requirements within the first 70 semester hours of their baccalaureate work will be placed on warning and given one semester in which to comply or be terminated from the forestry program. Transfer students admitted to the forestry program with more than 45 semester hours of baccalaureate work completed elsewhere must comply within 35 semester hours following admission to the forestry program or be placed on one-semester warning status.

Study is concentrated in a series of forestry and related areas which enable the student to develop professional competencies in the management of forest resources. Students gain experience with field applications of professional skills during a five week early summer session immediately following the junior year.

Forestry As A Major

Available to the Department of Forestry for teaching and research are the following: the Crab Orchard National Wildlife Refuge; the Shawnee National Forest; the Union State Tree Nursery and Forest; many state parks and conservation areas, and the Kaskaskia Experimental Forest, together comprising several hundred thousand acres of forest land, all in the vicinity of the University. Also accessible for wood utilization teaching and research is a modern wood products plant located at the Vocational-Technical Institute east of Carbondale. The Southern Illinois University Experimental Forest and Giant City State Park provide additional facilities for teaching and research, especially during the spring camp. In addition, 30 staff members of the U. S. Forest Service Carbondale Research Center are affiliated with the Department of Forestry and help to enrich the University's forestry program.

Representative First Job Titles: Agricultural Aid, Recreational Resource Planner, Forest Engineer, Silviculture Specialist, Forest Utilization Specialist, Forest Recreation Specialist, Range Manager, Watershed Manager, Wildlife Manager, Forest Products Technologist, Animal Ecologist, Plant Ecologist, Pollution Control Specialist, Forest Conservation Specialist, Public and Environmental Health Forester, Parks Supervisor, Grazing Lands Supervisor, Research Forester, Forest Extension Worker, Timber Manager, Park Ranger, Soil Conservationist, Forest Resources Manager.

The forest science option is intended for students who plan to enter a graduate program in forestry upon completion of the baccalaureate program. The student and his or her advisory committee, consisting of two Department of Forestry faculty members, plan an individualized program to meet the student's educational and professional goals. The program of study may be selected from any subject within the competence of the Forestry Department faculty. Admission to the program is limited to students with a grade point average of 3.0 or above (on a 4.0 = A scale) and the student must maintain a 3.0 or above average to remain in the program.

First Year		Fall	Spring
BOT 200 & 201	General Botany with Lab ¹	4	-
CHEM 140a & b	Chemistry ¹	4	4
ZOOL 118	Introductory Zoology ¹	-	4
GSC	Humanities (select) ²	-	3
MATH 140	Calculus ¹	-	4
GSD 101	English Composition	3	-
GSE	Human Health and Well Being (select) ²	2	1
FOR 200	Introduction to Forestry	1	-
		14	16
Second Year		Fall	Spring
BIOL 307	Environmental Biology ¹	3	-
GSB	Sociology or substitute	3	-
GSB	Political Science or substitute	-	3
GSC	Humanities (select) ²	3	3
GSB	Social Science (select) ²	-	3
GSD 117/118/119	Writing (select) ²	2	-
GSE	Human Health and Well Being (select) ²	-	1
FOR 201	Ecology of North American Forests	3	-
FOR 202	Tree Identification Lab	1	-
PLSS 240	Soil Science	-	4
		15	16

¹Substitutes for General Studies requirements.

²To determine what courses may be taken to satisfy general education requirements for this major refer to the section General Studies for the Transfer Student.
Third and Fourth Year

Before forestry majors will be admitted to any forestry courses at the 300 level or higher, they must have completed all freshmen and sophomore courses required for the specialization with either: 1) a grade of C or higher for each course, 2) an overall grade point average of 2.50 or higher for all courses. Students who do not meet these requirements within the first 70 semester hours of their baccalaureate work will be placed on warning and given one semester in which to comply or be terminated from the forestry program. Transfer students admitted to the forestry program with more than 45 semester hours of baccalaureate work completed elsewhere must comply within 35 semester hours following admission to the forestry program or be placed on one-semester warning status.

There are four additional forestry courses which are required during the third and fourth years to complete the professional forestry core. The remainder of the third and fourth years are elective, selected by the student and his or her committee to satisfy the student's educational and professional goals.

Forestry As A Major

Available to the Department of Forestry for teaching and research are the following: the Crab Orchard National Wildlife Refuge; the Shawnee National Forest; the Union State Tree Nursery and Forest; many state parks and conservation areas, and the Kaskaskia Experimental Forest, together comprising several hundred thousand acres of forest land, all in the vicinity of the University. Also accessible for wood utilization teaching and research is a modern wood products plant located at the Vocational-Technical Institute east of Carbondale. The Southern Illinois University Experimental Forest and Giant City State Park provide additional facilities for teaching and research, especially during the spring camp. In addition, 30 staff members of the U. S. Forest Service Carbondale Research Center are affiliated with the Department of Forestry and help to enrich the University's forestry program.

Representative First Job Titles: Agricultural Aid, Recreational Resource Planner, Forest Engineer, Silviculture Specialist, Forest Utilization Specialist, Forest Recreation Specialist, Range Manager, Watershed Manager, Wildlife Manager, Forest Products Technologist, Animal Ecologist, Plant Ecologist, Pollution Control Specialist, Forest Conservation Specialist, Public and Environmental Health Forester, Parks Supervisor, Grazing Lands Supervisor, Research Forester, Forest Extension Worker, Timber Manager, Park Ranger, Soil Conservationist, Forest Resources Manager.

FORESTRY

(Outdoor Recreation Resource
Management Specialization Option)
School of Agriculture
(Bachelor of Science)

Dr. George Weaver, Chairperson
Telephone - 618-453-3341
Agriculture Building, Room 184

The program in outdoor recreation resource management provides interdisciplinary professional training in developing, maintaining and managing forests and wildlands as recreational areas. The courses offered are among those recommended by the National Recreation and Park Association. A special feature of the outdoor recreation resource management option is the two-week tour through selected sections of the U.S. to study outdoor recreation and park facilities. This tour normally is programmed in May for the summer following completion of the third year in the program.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
BOT 200 & 201	General Botany with Lab ¹	4	-
CHEM 140a & b	Chemistry (organic/inorganic) ¹	4	4
ZOO 118	Introductory Zoology ¹	-	4
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
MATH 140	Calculus ¹	-	4
GSE	Human Health and Well Being (select) ²	2	2
FOR 200	Introduction to Forestry	1	-
		14	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
FOR 301	Social Influences on Forestry	-	3
BIOL 307	Environmental Biology ¹	3	-
GSB	Sociology or substitute	3	-
GSB	Political Science or substitute	-	3
GSC	Humanities (select) ²	3	-
GSC 205	Innovation for the Contemporary Environment	-	3
GSD 153	Public Speaking	-	3
MATH 283	Introduction to Applied Statistics	3	-
FOR 201	Ecology of North American Forests	3	-
FOR 202	Tree Identification Lab	1	-
PLSS 240	Soil Science	-	4
		16	16

¹Substitutes for GSA requirements.

²To determine what courses may be taken to satisfy the general education requirements for this major, please refer to the section, General Studies for the Transfer Student.

Third and Fourth Year

Before forestry majors will be admitted to any forestry courses at the 300 level or higher, they must have completed all freshmen and sophomore courses required for the specialization with either: 1) a grade of C or higher for each course, 2) an overall grade point average of 2.50 or higher for all courses. Students who do not meet these requirements within the first 70 semester hours of their baccalaureate work will be placed on warning and given one semester in which to comply or be terminated from the forestry program. Transfer students admitted to the forestry program with more than 45 semester hours of baccalaureate work completed elsewhere must comply within 35 semester hours following admission to the forestry program or be placed on one-semester warning status.

Professional and related courses are emphasized during the junior and senior years to develop competence in management of recreational resources of forested environments. A three week summer tour of outdoor recreation facilities is included.

Forestry As A Major

Available to the Department of Forestry for teaching and research are the following: the Crab-Orchard National Wildlife Refuge; the Shawnee National Forest; the Union State Tree Nursery and Forest; many state parks and conservation areas, and the Kaskaskia Experimental Forest, together comprising several hundred thousand acres of forest land, all in the vicinity of the University. Also accessible for wood utilization teaching and research is a modern wood products plant located at the Vocational-Technical Institute east of Carbondale. The Southern Illinois University Experimental Forest and Giant City State Park provide additional facilities for teaching and research, especially during the spring camp. In addition, 30 staff members of the U. S. Forest Service Carbondale Research Center are affiliated with the Department of Forestry and help to enrich the University's forestry program.

Representative First Job Titles: Agricultural Aid, Recreational Resource Planner, Forest Engineer, Silviculture Specialist, Forest Utilization Specialist, Forest Recreation Specialist, Range Manager, Watershed Manager, Wildlife Manager, Forest Products Technologist, Animal Ecologist, Plant Ecologist, Pollution Control Specialist, Forest Conservation Specialist, Public and Environmental Health Forester, Parks Supervisor, Grazing Lands Supervisor, Research Forester, Forest Extension Worker, Timber Manager, Park Ranger, Soil Conservationist, Forest Resources Manager.

Programs of study in foreign languages leading to the Bachelor of Arts degree (with or without teacher certification) are offered in Classics, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree for students who have a professional or occupational interest in Asia. Students wishing to work towards this major are encouraged to take an Asian language.

Students majoring in a foreign language usually begin at the second- or third-year level. The student who has taken two years of one foreign language in high school (or equivalent) may earn proficiency credit through taking a proficiency exam in French, German, Latin, Spanish at the Testing Center, or in Chinese, Greek, Japanese, Russian at the Foreign Languages and Literatures Department. For additional credit, students with more than two years are encouraged to take a validating course. Students with four years in one foreign language at the high school level are encouraged to continue with that language. Since proficiency credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment and career possibilities that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas where language proficiency is a supporting factor, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
FR 123a,b	Elementary French ²	4	4
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ¹	2	-
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	-	3
GSC	Humanities (select) ¹	3	-
GSD	Speech (select) ¹	2(3)	-
FR 201a,b	Intermediate French ³	4	4
FR 220a,b	Intermediate French Conversation ⁴	2	2
MATH or CS	Mathematics or Computer Science ⁵	-	3
		<u>14 (15)</u>	<u>15</u>

*See also Foreign Language Education under the College of Education.

¹See General Studies for the Transfer Student.

²This first year of French does not count toward the major.

³Required by the major. Students with more than one year of high school French should take at least one substantial course in the French major each semester.

⁴French 220 a,b is recommended but does not count towards major or minor requirements.

⁵One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

French As A Major

A major in French consists of 36 semester hours in courses above the 100 level with a minimum of 14 hours on the 300 level (to include 320) and 14 hours on the 400 level (to include FL 436). A minor in French consists of 18 semester hours in courses above the 100 level. Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

The Department of Geography provides a comprehensive curriculum to undergraduate students. The Bachelor of Science in Education prepares a student for secondary school teaching.

While students will generally avoid in-depth specialization at the undergraduate level, the program offers a breadth of courses in the field of geography. Students experience course work in economic, urban and regional planning resource management, and physical geography as well as in-depth studies in regional courses such as Illinois, United States and Middle and South America.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 110	Earth Science	3	-
GSA 330	Weather	-	3
GSB 103	Geography of the Human Environment	3	-
GSC	Humanities (select) ²	3	3
GSD 101, & 117, 118 or 119	English Composition and Writing (select) ²	3	2
GSD 107	Intermediate Algebra	-	4
GSE	Human Health and Well Being (select) ²	2	-
GSE 201	Healthful Living ²	-	2
ED 201	The Teacher's Role in Public School Education	1	-
		<u>15</u>	<u>14</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSA 322	Earth's Mineral Resources	-	3
GSB 212, 300 or 301	American Government or History of U.S. ²	4 (3)	-
GSC	English elective in Humanities (select) ²	3	-
GSD 153	Public Speaking ²	-	2
GEOG 302	Physical Geography	-	3
GEOG 310	Introduction to Cartography	3	-
Elective ^{2,3}		<u>4</u>	<u>4</u>
		<u>17 (16)</u>	<u>15</u>

¹ See also the program under the College of Liberal Arts.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student. The following specific General Studies courses are required for teacher certification (these courses may be completed during the freshman or sophomore years): GSB 202, Introduction to Psychology; GSD 212, Introduction to American Government and Politics or GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118, or 119, Expository, Technical, or Creative Writing; GSD 153 Public Communication; GSE 110-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

³ Elective hours should be used in the following ways; (1) students may explore areas of interest; (2) they may select a minor.

Geography As A Major

The Department of Geography has an abundance of resources to supplement its instructional program. Morris Library contains over 100,000 maps used by geography majors in research and training. The maps include special regional displays as well as topographic maps.

The department also maintains a cartographic laboratory where students obtain training in map construction and preparation. The laboratory is an integral part of geographic research studies as well as spatial studies.

Climatological and meteorological facilities are maintained by the department and staff who are involved in weather studies and research. The resources are used by students in their climatology and meteorology courses.

Finally, the area of Southern Illinois provides a natural laboratory for geography students. The diversity in physical landforms and geomorphology, economic and cultural environments provides excellent conditions for students pursuing in-depth studies in Southern Illinois.

The Department of Geography provides a comprehensive curriculum for undergraduate students. Students may pursue the Bachelor of Arts or the Bachelor of Science degree in Liberal Arts or the Bachelor of Science degree in Education. Programs for the Liberal Arts degree are oriented toward graduate work, environmental, and governmental careers. The Bachelor of Science in the Education degree program prepares a student for secondary school or junior college teaching.

The program offers a breadth of courses in the field of geography. Students experience course work in economic, urban and regional planning, resource management, and physical geography as well as in-depth studies in regional courses covering Illinois, U.S., and Middle and South America.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 103	Geography of the Human Environment (optional)	3	-
GSC	Humanities (select) ¹	3	3
GSD 101 & 117,			
118 or 119	English Composition and Writing (select) ¹	3	2
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ¹	2	2
		<u>14</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	3
GSC or FL	Humanities (select) ¹ or Foreign Language ²	3 (4)	3 (4)
GSD	Speech (select) ¹	-	2 (3)
GEOG 310	Introductory Cartography ⁴	-	3
GEOG 300	Introduction to Geography ³	3	-
MATH or CS	Mathematics or Computer Science ⁵	-	3
Elective ⁶		3	-
		<u>15-16</u>	<u>14-16</u>

*See also the program in the College of Education.

¹ To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

² Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

³ Required by the major.

⁴ Although Geography 310 is required only for the social/urban planning and the physical environmental systems specializations, it can also be used for the other specializations.

⁵ One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁶ Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

Geography As A Major

The Department of Geography has an abundance of resources to supplement its instructional program. Morris Library contains over 100,000 maps used by geography majors in research and training. The maps include special regional displays as well as topographic maps.

The department also maintains a cartographic laboratory where students obtain training in map construction and preparation. The laboratory is an integral part of geographic research studies as well as spatial studies.

Climatological and meteorological facilities are maintained by the department and staff who are involved in weather studies and research. These resources are used by students in their climatology and meteorology courses.

Finally, the area of southern Illinois provides a natural laboratory for geography students. The diversity in physical landforms and geomorphology, economic and natural resources, and cultural environment provide excellent conditions for students pursuing in-depth studies in southern Illinois.

Representative First Job Titles: Geographer, Researcher, Economic Geographer, Political Geographer, Urban Geographer, Physical Geographer, Regional Geographer, Cartographer, Map Cataloger, Regional Analyst, Photo-Intelligence Specialist, Climatological Analyst, Community Planner, Editor, Air Traffic Controller, Map Librarian, Cultural Geographer, Location Analyst, Weather and Climate Analyst, Sales Representative, Resource Management Personnel, Planner, Construction Geographer, Highway Planner, Conservation Specialist.

Geology is the science of the earth. It deals with earth materials, processes and history. Both field and laboratory studies are important aspects of geological work. Employment opportunities for geologists are found within the petroleum, coal and other mining industries, state and federal geological surveys, other minerals-related industries, private and public organizations concerned with the development of water resources, engineering firms, and government agencies concerned with planning, land use, geologic hazards, construction, and land reclamation. Many geologists become teachers at a variety of levels from grade school to college. The Department of Geology at SIUC can provide students with sound, broad training in geology.

First Year

		<u>Fall</u>	<u>Spring</u>
GEOL 220	Physical Geology ¹	3	-
GEOL 221	Historical Geology	-	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository Writing or Technical Report Writing	-	2
MATH 110 or 111	College Algebra and Trigonometry ^{1,4}	3	2
CHEM 222 a, b	Introduction to Chemical Principles ^{1,4}	4	4
GSB	Social Studies	-	3
GSE	Health and Physical Development	1	1
		<u>14</u>	<u>15</u>

Second Year

		<u>Fall</u>	<u>Spring</u>
PHYS 203, 253			
or 205, 255	College Physics or University Physics ^{1,3}	4	4
FL	German, Russian or French recommended ^{1,4}	4	-
GSD 152 or 153	Speech	2 (3)	-
GSC	Humanities	-	3
GSE	Health and Physical Development	1	1
GEOL 310 or	Mineralogy ²	4	-
MATH 150	Calculus I ³	4	-
GEOL 474 or	Geomorphology ²	-	3
GSB	Social Studies	-	(3)
		<u>15 (16)</u>	<u>15</u>

¹Substitutes for General Studies requirements.

²If more advanced geology courses such as mineralogy and geomorphology are not offered at your school, take calculus, social studies, humanities or a good botany or zoology course instead. Our program is designed so that a transfer student can easily finish the geology curriculum in two years provided the student has taken most of the specified courses in chemistry, physics, foreign language or mathematics.

³If Physics 205 is taken, the student must enroll concurrently (or previously) in Math 150.

⁴Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

Third and Fourth Years

The last two years of a student's program allow some concentration on specific professional objectives. Students in the Bachelor of Arts degree program would take geology courses, biology courses, social studies, humanities and a large number of elective courses. Students in the Bachelor of Science degree program would take some additional social studies and humanities, biology courses, required geology courses and geology electives, science or technology electives and free electives. Students are encouraged to take independent field and laboratory research problems in their senior year.

Geology As A Major

Students in geology can work toward a Bachelor of Arts or a Bachelor of Science degree. The Bachelor of Science curriculum is recommended for those planning to pursue graduate studies or a professional career in geology. A summer field course in the Rocky Mountains is required for the B.S. degree and is strongly recommended for the B.A. degree. This course is normally taken between the junior and senior years. The Department of Geology has appreciable holdings of modern geologic laboratory and field equipment. Students are permitted to utilize this equipment in courses and are encouraged to use it in independent study projects. With few exceptions, classes for geology majors tend to be small, and students have the opportunity for close contact with the faculty and receive considerable individual attention both within and outside the classroom. The Department assists students in finding suitable graduate programs or jobs in geology and related areas.

Representative First Job Titles: Geologist, Astrogeologist, Cartographer, Conservation Scientist, Economic Geologist, Geochemist, Geological Engineer, Geological Oceanographer, Geological Researcher, Geophysical Exploration Scientist, Geophysicist, Groundwater Geologist, Petroleum Geologist, Photogeologist, Resource Evaluator, Sedimentologist, Stratigraphist, Surveying Geologist, Geomorphologist, Structural Geologist, Product Studies and Testing Geologist.

GERMAN*

College of Liberal Arts
(Bachelor of Arts)

Programs of study in foreign languages leading to the Bachelor of Arts degree in the College of Liberal Arts (with or without teacher certification) are offered in Classics, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree in the College of Liberal Arts for students who have a professional or occupational interest in Asia. Students wishing to work towards this major are encouraged to take an Asian language.

Students majoring in a foreign language usually begin at the second- or third-year level.

The student who has taken two years of one foreign language in high school (or equivalent) may earn proficiency credit through taking a proficiency exam in French, German, Latin, Spanish at the Testing Center, or in Chinese, Greek, Japanese, Russian at the Foreign Languages and Literatures Department. For additional credit, students with more than two years are encouraged to take a validating course. Students with four years in one foreign language at the high school level are encouraged to continue with that language. Since proficiency credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

First Year

		Fall	Spring
GSA	Science (select) ¹	-	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GER 126a,b	Elementary German ²	4	4
GSE	Human Health and Well Being (select) ¹	2	-
GSD	Math (select) ¹	-	4
		15	16

Second Year

		Fall	Spring
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	-	3
GSC	Humanities (select) ¹	3	-
GSD	Speech (select) ¹	2 (3)	-
GER 201a,b	Intermediate German ³	4	4
GSE	Human Health and Well Being (select) ¹	2	-
MATH or CS	Mathematics or Computer Science ⁴	-	3
		14	13

*See also Foreign Language Education under the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead. The first year of German does not count on the major.

³Required by the major. Students with more than one year of high school German should carry at least one substantial course in the German major each semester.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

German As A Major

A major in German consists of 36 semester hours in courses above the 100 level, to include the basic language sequence and one literature course (300 or 400 level). The student must complete 12 hours on the 300 level (to include 320) and 12 hours on the 400 level, plus 4 hours of electives on the 300 or 400 level. A minor in German consists of 18 semester hours in courses above the 100 level.

Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

The Department of Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Health education in secondary schools. For those planning to teach or supervise health education in the secondary schools.
2. Community health. For those planning to conduct health education and health promotion activities in non-classroom settings.

The two minimal professional preparations are:

1. Health Education in Secondary Schools. For those certified to teach in Illinois secondary schools who wish minimal preparation to teach health education.
2. Driver Education. For those planning to teach driver education in Illinois secondary schools.

These specializations in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field. The Community Health specialization does not lead to teacher certification. The following are recommended courses for this specialization.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition	3	-
GSD 117, 118			
or 119	Writing (select) ¹	-	2
GSE	Human Health and Well Being (select) ¹	2	2
Electives		<u>2</u>	<u>3</u>
		16	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	-	3
GS	Additional course work from A, B, or C (select) ¹	-	3
GSD 152 or 153	Interpersonal Communication or Public Speaking	2 (3)	-
GSD	Math (select) ¹	-	4
Electives		<u>6</u>	<u>5</u>
		14 (15)	15

¹ Refer to the section General Studies for the Transfer Student.

Third and Fourth Years

For the remaining years of the degree program, the student will concentrate on specific requirements in health education and related areas.

The community health specialization is also an attractive bachelor's degree alternative for students holding an associate in applied science degree in a health field.

HEALTH EDUCATION
(Health Education in Secondary Schools)
College of Education
(Bachelor of Science)

M. Frances Giles
Coord. of Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Donald Boydston, Chairperson
Telephone - 618-453-2777
Arena, Room 126

The Department of Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Health education in secondary schools. For those planning to teach or supervise health education in the secondary schools.
2. Community health. For those planning to conduct health education and health promotion activities in non-classroom settings.

The two minimal professional preparations are:

1. Health Education in Secondary Schools. For those certified to teach in Illinois secondary schools who wish minimal preparation to teach health education.
2. Driver Education. For those planning to teach driver education in Illinois secondary schools.

These specializations in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field. The following are recommended courses for the specialization in Health Education in secondary schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 202	Introduction to Psychology ²	3	-
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition ²	3	-
GSD 117, 118			
or 119	Writing (select) ^{1,2}	-	2
GSD	Mathematics (select) ¹	-	4
GSE 201	Healthful Living ²	-	2
GSE	Human Health and Well Being (select) ^{1,2}	1	-
EDUC 201	Teacher's Role in Public School Education	-	1
Electives		3	-
		16	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB 300, 301			
or 212	History of U.S. or American Government ²	3	-
GSB	Social Science (select) ¹	-	3
GSC	English Elective in Humanities (required) ²	3	-
GSD	Speech (select) ^{1,2}	-	2
GSE	Human Health and Well Being ²	1	-
Electives		8	7
		15	15

¹ Refer to the section General Studies for the Transfer Student.

² The following specific General Studies courses listed are required for Teacher's Certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics or GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical Report, or Creative Writing; GSD 153, Public Speaking; GSE 110-114 (2 hours), Physical Education activities; GSD 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

The history major consists of 32 semester hours. From this six courses must be evenly distributed over either two or three fields chosen from American, European, or Latin American/African history offerings; i.e., either two courses in each of the three fields or three courses in each of two of the three fields. Illinois state certification requires a minimum of eight semester hours of American History. The student must also complete a total of three courses at the 400 level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSB 202	Introduction to Psychology	3	-
GSB 300	Origins of Modern America, 1492-1877	-	3
GSC	Humanities (select) ²	3	3
GSD 101	English Composition	3	-
GSD 117, 118, or 119	Writing (select) ²	-	2
GSD 153	Public Speaking	-	2
GSE	Human Health and Well Being--activity	1	-
GSE 201	Healthful Living	-	2
ED 201	Teacher's Role in Public School Education	-	1
HIST 205	History of Western Civilization	3	-
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	-
GSB	Modern America from 1877 to Present	3	-
GSB	Social Studies (select) ²	-	3
GSC	English Elective in Humanities (select) ²	3	-
GSD	Math (select) ²	-	4
GSE	Human Health and Well Being--activity	1	-
HIST	Electives	6	9
		<u>16</u>	<u>16</u>

¹ See also the program under the College of Liberal Arts.

² Refer to the section General Studies for Transfer Students.

History As A Major

The following courses are required for teacher certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics OR GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118, 119, Expository, Technical, or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; one additional English course (GSC, GSD, or departmental).

HISTORY*

College of Liberal Arts
(Bachelor of Arts)

Dr. Harry Ammon - Chairperson
Telephone - 618-453-4391
Faner, Room 3374

The history major consists of 32 semester hours. From this, six courses must be distributed over either two or three fields chosen from American, European, or Latin American/African history offerings; i.e., either two courses in each of the three fields or three courses in two of the three fields. The student must also complete a total of 9 semester hours at the 400 level, and write a term paper in conjunction with one 400-level course.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
Hist	Western Civilization ²	3	3
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSD	Speech (select) ¹	-	2 (3)
GSD	Math (select) ¹	4	-
GSE	Human Health and Well Being (select) ¹	2	2
		15	15-16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 300, 301	History of the U.S. ²	3	3
GSB	Social Science (select) ¹	3	3
GSC or FL	Humanities (select) ¹ or Foreign Language ³	3 (4)	3 (4)
Math or CS	Mathematics or Computer Science ⁴	-	3
Elective ⁵		3	3
		15-16	15-16

*See also the program under the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Recommended by the major.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

History As A Major

When possible, transfer students should contact the department prior to their first semester of attendance.

Transfer students must earn at least 16 semester hours of history credit at SIUC.

The program in history is an excellent background for future work in law school, government service and other professional areas as well as graduate schools. The History Department maintains its own advisement system to help the student design a program which best suits his or her interests and needs. Exceptional students are invited to participate in a departmental honors program.

Representative First Job Titles: Administrative Assistant in Library, Administrative Assistant in Museum, Museum Curator, Archival Worker, Exhibit Preparation Historian, Genealogical Background Researcher, Legal Assistant, Administrative Aide, College Sales Representative, Biography Writer, Political Systems Researcher, Religion & Philosophy Studies Historian, Sociological Researcher, American Government Studies Historian, Censoring (Officer) Historian, Volunteer (Peace Corps), Legislative Budget Analyst, International Law & Relations Researcher, Legislative Aide, Public Information Historian, Claims Authorizer, Director (Community Historical Society), Editor.

This program prepares students for positions in agencies and businesses which provide educational services. Such tasks as developing informational materials, working with individual customers or clients, coordinating conferences and demonstrating products might be included in the job description for such positions.

Teacher certification is not required for this specialization.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	3
GSB 211 or 212	Contemporary Economics ² or Intro. to American Government and Politics	3 (4)	-
GSC 101	Introduction to Art ²	-	3
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Writing (select) ¹	-	2
GSE	Human Health and Well Being (select) ¹	<u>2</u> 14 (15)	<u>2</u> 13
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 202	Introduction to Psychology ²	3	-
GSB 203	The Sociological Perspective ²	-	3
GSB 206 or C&F 227	Applied Child Development ² or Marriage and Family Living	-	4
GSD 152 or 153	Interpersonal Communication or Public Speaking	2 (3)	-
GSD Electives	Mathematics (select) ¹	- <u>6</u> 14 (15)	4 <u>6</u> 17

¹Refer to section General Studies for the Transfer Student.

²Required by the major.

Home Economics Education As A Major

A minor is not required. Foreign language is not required.

Graduate degrees available.

HOME ECONOMICS EDUCATION
(Home Economics Extension)
College of Education
(Bachelor of Science)

M. Frances Giles
Coordinator of Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Anna C. Fults Khattab, Coordinator
Telephone - 618-453-3321
Pulliam Hall, Room 210

This program is designed to meet the needs of students desiring to teach home economics in school departments maintained according to the provisions of the federal vocational acts. A vocational home economics certificate requires a bachelor's degree in home economics from an institution and in a course of study approved for teacher training by the Vocational Division of the United States Office of Education and by the State Board for Vocational Education and Rehabilitation. Southern Illinois University is so approved for training home economics teachers.

These courses prepare a person for positions as Home Advisors, 4-H Club Agents or Advisors, and, with further training, extension specialists.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB 203	The Sociological Perspective	4	-
GSB 212	Intro. to American Government & Politics	-	4
GSC 101	Introduction to Art	3	-
GSD 107	Intermediate Algebra	4	-
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
GSE	Human Health and Well Being	-	2
F&N 100	Fundamentals of Nutrition	3	-
Chem 140a	Chemistry ²	-	4
C&T 127	Clothing Construction	-	2
		<u>17</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	-	3
GSB 202	Introduction to Psychology	3	-
GSE 201	Healthful Living	-	2
GSC	Humanities (select) ¹	3	3
C&F 227	Marriage and Family Living	3	-
C&F 237	Child Development	-	3
C&T 150	Survey of Clothing	-	2
F&N 156	Fundamentals of Foods	3	-
Chem 140b	Survey of Chemistry	4	-
GSD 153	Public Speaking	-	3
		<u>16</u>	<u>16</u>

¹ Refer to section General Studies for the Transfer Student.

² Approved substitute for General Studies.

Refer to Undergraduate Catalog for departmental requirements and requirements taught via General Studies.

Home Economics Education As A Major

No minor is required. No foreign language required.

Child Development practicum in Nursery school; Home Management practicum; supervised student teaching in an area high school; Field experiences with a Home Economics Extension advisor are available.

Occupational education programs are included as well as emphasis on consumer-homemaking so that graduates qualify for the new curricular emphasis in Illinois High Schools.

Graduate degrees available.

HOME ECONOMICS EDUCATION

(Teacher Certification)
College of Education
(Bachelor of Science)

M. Frances Giles
Coordinator of Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Anna C. Fuels Khattab, Coordinator
Telephone - 618-453-3321
Pulliam Hall, Room 210

This program is designed to meet the needs of students desiring to teach home economics in school departments maintained according to the provisions of the federal vocational acts. A vocational home economics certificate requires a bachelor's degree in home economics from an institution and in a course of study approved for teacher training by the Vocational Division of the United States Office of Education and by the State Board for Vocational Education and Rehabilitation. SIUC is so approved for training home economics teachers.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 203	The Sociological Perspective	3	-
GSC 101	Introduction to Art	3	-
GSD 107	Intermediate Algebra	4	-
GSD 101	English Composition ¹	3	-
GSD 117 or 118	Technical Report or Expository Writing ¹	-	2
GSD 153	Public Speaking ¹	-	3
GSE 201	Healthful Living ¹	-	2
CHEM 140	Chemistry ²	-	4
C&T 127	Clothing Construction	-	3
ED 201	Teacher's Role in Public School Education	-	1
F&N 100	Fundamentals of Nutrition	3	-
GSC	Humanities (select) ³	-	3
		16	18

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ³	3	3
GSB 202	Introduction to Psychology ¹	3	-
GSB 212	Introduction to American Government & Politics ¹	-	4
GSC	English Elective in Humanities (select) ¹	-	3
GSE	Human Health and Well Being (select) ¹	-	2
C&F 237	Child Development	-	3
C&F 227	Marriage and Family Living	3	-
FEM 340	Consumer Problems ⁴	2	-
F&N 156	Fundamentals of Foods	3	-
ID 131	Introduction to Design, Home Furn. and Int.	4	-
VES 320	Home Economics as a Profession	-	1
		18	16

¹The following courses are required for teacher certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics or GSB 300 or 301, U.S. History; GSD 101 English Composition, GSD 117, 118 or 119, Expository Technical Report or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education activities; GSE 201, Healthful Living; and one additional English course (GSC, GSD, or departmental).

²Substitutes for GSA 106 Chemistry for non-science majors.

³Refer to section General Studies for the Transfer Student.

⁴Or GSB 346 Consumer Choice and Behavior.

Home Economics Teacher Education As A Major

No minor required. No foreign language required.

Child Development practicum in Nursery school; Home Management practicum; supervised student teaching in an area high school; Field experience with a Home Economics Extension advisor are available.

Occupational education programs are included as well as emphasis on consumer-homemaking so that graduates qualify for the new curricular emphasis in Illinois High Schools.

Graduate degrees available.

HOME ECONOMICS EDUCATION
 (Teaching Vocational Home Economics
 Specialization, Special Education Emphasis)
 College of Education
 (Bachelor of Science)

M. Frances Giles, Coordinator
 Teacher Education Services
 Telephone - 618-453-2354
 Wham Building, Room 135

Anna C. Fults Khattab, Coordinator
 Telephone - 618-453-3321
 Pulliam Hall, Room 210

This program prepares home economics teachers for special needs learners.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 202	Introduction to Psychology ³	-	3
GSB 203	Sociological Perspective	4	-
GSC 101	Introduction to Art	3	-
GSD 101	English Composition ³	3	-
GSC	Humanities (select) ¹	3	-
GSD 107	Intermediate Algebra	-	4
GSD 118	Technical Report Writing ³	-	2
F&N 100	Fundamentals of Nutrition	-	3
		<u>16</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 153	Public Speaking ³	3	-
Chem 140	Survey of Chemistry ²	4	-
GSB 212	Introduction to American Government & Politics ³	-	4
GSC	English Elective in Humanities (select) ¹	3	-
GSE 201	Healthful Living ³	2	-
GSE	Human Health and Well Being (select) ^{1,3}	-	2
C&F 227	Marriage and Family Living	3	-
C&F 237	Child Development	-	3
C&T 127	Clothing Construction	-	3
Educ 201	Teacher's Role in Public School Education	1	-
Elective		-	3
		<u>16</u>	<u>15</u>

¹Refer to section General Studies for the Transfer Student.

²Substitutes for GSA 106, Chemistry for non-science majors.

³The following courses are required for teacher certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics, or GSB 300 or 301, U.S. History; GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical Report, or Creative Writing; GSB 153, Public Speaking; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; one additional English course (GSC, GSD, or departmental).

The Industrial Technology program has as its objective the training of qualified personnel who can develop and direct the manufacture and distribution of products. The program is a balanced curriculum of studies drawn from a variety of disciplines relating to processes, principles of distribution, and concepts of industrial management and human relations. Communication skills, humanities, and social sciences are studied to develop managerial abilities. Knowledge of physical sciences, mathematics, design, and technical skills gained from the program allow the graduate to cope with technical and production problems.

The specialty is designed to provide the necessary education for entry into employment upon completion of the bachelor's degree. Industrial Technology courses contain topics related to the manufacture and distribution of products.

Requirements for a concentration in Industrial Technology include one of four elective areas: Industrial Design, Manufacturing, Supervision and Personnel, or Technical Sales.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 106	Chemistry for Non-Science Majors ¹	-	3
GSB	Social Science (select)	3	3
GSC	Humanities (select)	-	3
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
GSE	Human Health and Well Being (select)	-	2
ET 103, 104	Engineering Drawing I, II	3	3
MATH 111	Algebra and Trigonometry ²	5	-
		14	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Science (select)	-	3
GSC	Humanities (select)	6	-
GSD 153	Public Speaking	-	2
ET 245a	Electrical Systems for Industry	-	3
IT 309	Industrial Processes I	4	-
IT 310	Industrial Processes II	-	4
PHYS 203a,b & 253a,b	College Physics and Lab ²	4	4
ENGR 222	Computational Methods	2	-
		16	16

¹ Recommended, not required.

² Substitutes for General Studies requirements.

Third and Fourth Year

To advance to upper division courses and be classified under a specific departmental major, a pre-industrial technology student must have completed the following four courses or their accepted equivalencies with a minimum grade of C in at least three of the four courses: Mathematics 111; Physics 203A; ET 103 and ENGR 222.

To remain in the College, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in industrial technology used in determining the grade point averages are courses with the prefix IT.

The last two years of a student's program concentrate on specialized objectives. For transfer students with an Associate degree in an occupational program the required courses are dependent on the student's previous program.

Industrial Technology As A Major

Community college occupational and technical credit (data processing, electronics technology, management, marketing, mechanical technology, metals technology, plastics, transportation, building construction, architectural drafting to name a few) can be accepted as applicable towards degree requirements. This permits the student to obtain a Bachelor of Science degree in a minimum length of time.

For the bachelor's degree the recommended guidelines are met through the completion of 55 semester hours in the Industrial Technology core, and 20 in the technical specialization.

Employment opportunities for graduates are excellent which permits a wide range of initial job selectivity and more flexibility for later job promotion or job transfer. Federal statistics show that in the present decade, the need for technologists and related workers will exceed that for all other occupational groups. To the technologist, industry offers interesting and rewarding positions with considerable potential for growth and development.

Positions needed in all types of industry are associated with production planning and scheduling, process design, quality control, methods analysis, personnel supervision, material and equipment procurement, facility planning, equipment design, job estimation, technical sales, maintenance supervision, and other production-related functions.

Representative First Job Titles: Manufacturing Manager, Production Planning and Control, Quality Assurance Specialist, Safety Engineer, Plant Manager.

The world-wide energy crisis has created a growing demand for coal and other mining products and the need for technologists and engineers in the mining industry is expected to increase dramatically in the next decade. To help meet this growing demand Southern Illinois University at Carbondale offers courses in mining technology which culminate in a Bachelor of Science degree in Industrial Technology.

Course Requirements

The program is primarily designed to provide a capstone of subject matter for those students completing programs in mining technology or related areas at community colleges or technical institutes. Courses offered at Southern Illinois University at Carbondale include topics such as coal analysis, coal mining problems, labor relations, materials handling, surveying, motion and time study, quality control, underground and surface mining technology, and others.

The required courses are dependent on the student's academic background and work experience. In general, the baccalaureate degree can be obtained in two academic years after completing an associate degree in mining technology or a related field at a community college or technical institute.

Industrial Technology (Mining) As A Major

To advance to upper division courses and be classified under a specific departmental major, a pre-industrial technology student must have completed the following four courses or their accepted equivalencies with a minimum grade of C in at least three of the four courses: Mathematics 111; Physics 203A; ET 103 and ENGR 222.

To remain in the College, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in industrial technology used in determining the grade point averages are courses with the prefix IT.

Career Opportunities

Employment opportunities in the mining industry are practically unlimited with many top management positions available for college educated people with mining experience.

Representative First Job Titles: Production Planning and Control, Quality Assurance Specialist, Safety Engineer.

INTERIOR DESIGN
Division of Comprehensive
Planning and Design
College of Human Resources
(Bachelor of Science)

David Clark
Divisional Executive Officer
Telephone - 618-536-7741
Quigley Hall, Room 128c

The Division of Comprehensive Planning and Design offers a concentrated course of study in interior design. Through emphasis on professional interior design problems and standards, architectural technology, art, graphic design, business practice, and the history of architecture and interior design, the student receives a comprehensive, interdisciplinary education in preparation for designing and administrative positions in the fields of residential, commercial, and contract design. The Interior Design program is accredited by the Foundation for Interior Design Education Research.

The profession of interior design is a young and growing one offering unusual opportunities to those with design ability. The environmental needs of a changing society offer challenges which can be met only by imagination, skill, and training. The interior designer, industrial designer, architect, landscape architect, and urban planner often collaborate in planning and creating environmental spaces to serve human needs and aspirations; the interior designer is vital to the team in determining the quality of interior space. An interior design graduate is qualified to practice professionally in an interior design studio, space-planning firm, architectural firm, as well as in industrial design, retail sales, or in institutions and government agencies. Below is a recommended course of study for undergraduates.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101 & 117,			
118 or 119	English Composition ¹ and Writing (select) ¹	3	2
GSD 107	Intermediate Algebra ¹	4	-
GSC 101	Introduction to Art	-	2
GSE	Human Health and Well Being (select)	-	2
ART 200	Beginning Drawing ²	2	-
STC 215a,b	Drafting Graphics ²	3	3
ID 231	Introduction to Interior Design ²	3	-
ID 332a	Construction Methods & Materials ²	-	6
		15	15
<u>Second Year*</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology	-	2
GSC 205	Innovation for the Contemporary Environment	3	-
GS	Select from Areas A,B,C,D,E	2	2
C&T 104	Basic Textiles ²	2	-
ID 390	Design Presentation and Delineation ²	3	-
ID 332b	Construction Methods and Materials ²	3	-
ID 391a	Intermediate Interior Design	-	4
ID 381, 382	Furniture & Interior Design History ²	2	2
ID 300	Display & Exhibition Design	-	2
ID 393	Architectural Analysis	-	3
		15	15

¹ Required General Studies courses.

² These courses are required for an Interior Design major. For specific information regarding the acceptability of a major requirement from a junior college, you may contact the coordinator of the Interior Design program. Examples of work must be presented to, and approved by I.D. Coordinator for credit transfer.

*Transfer students should concentrate on General Studies courses during the second year, since more advanced major courses should be taken at SIUC.

Third and Fourth Year

Studies during the third and fourth years consist of Design Studios and selected courses in Architecture and Advanced Interior Design. Special emphasis is given toward departmental requirements and recommended elective courses. Third and fourth year Interior Design courses include ID 383, 384, 391a,b,c, 394 and 491.

General Studies other than those marked "1" are highly recommended for Interior Design majors.

Because of the large number of laboratory classes in Interior Design, the junior college transfer student who has completed an associate degree may require up to three years' additional study to complete the baccalaureate degree.

Representative First Job Titles: Interior Designer, Assistant to the Architect, Customer Services Specialist, Design Reviewer, Manufacturer's Representative, Price Analyst, Researcher, Customer Relations Officer, Architectural Interior Designer, Exhibition Designer, Home Furnishing Consultant, Office Landscape Design, Public Building Interior Designer, Commercial Interior Designer, Residential Interior Designer, Decorations Selector, Space Planner, Purchasing Specialist, Theater Designer, Retail Merchandising Supervisor.

JOURNALISM

(News Editorial)

(Advertising)

(Photojournalism)

College of Communications and Fine Arts

(Bachelor of Science)

Dr. Vernon Stone, Director

Telephone - 618-536-3361

Communications Bldg North Wing

Journalism courses are designed to give thorough professional training in both theory and practice in a number of career areas. These include news-editorial and advertising positions on newspapers, magazines, industrial publications, cable communications systems, and other news media; in other advertising careers; and in public relations, media management, photojournalism, teaching, and research.

Undergraduates are urged to enter the School of Journalism immediately in order that they may obtain the advantage of Journalism Advisement. Students may take JRNL 300 during their second semester in the freshman year. Proficiency in typing is required (30 words per minute) to enter JRNL 310, the first writing course.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Studies (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
GSD 113	Introduction to Math	2	-
GSD 112	Basic Concepts of Statistics	-	2
GSD 101	English Composition	3	-
GSD 117, 118, 119	Writing (select one) ¹	-	2
GSD 152, 153	Interpersonal Communication or Public Speaking	-	2 (3)
GSE	Human Health and Well Being (select) ¹	1	1
Elective		3	-
JRNL 300	Mass Media in Modern Society	-	3
		15	16 (17)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	-	3
GSC	Humanities (select) ¹	3	3
GSE	Human Health and Well Being (select) ¹	1	1
*JRNL 370	Principles of Advertising	3	-
*JRNL 310	Writing for the Mass Media	-	3
Electives		5	2
		15	15

*Required courses for major in Journalism.

¹See section on General Studies for the Transfer Student.

See also Journalism in College of Education for Teacher Certification requirements.

Journalism As A Major

In addition to the General Studies courses, the academic requirements for a Bachelor of Science Degree in Journalism include 30-34 hours in journalism course work as approved by the School, 26-30 hours of upperclass electives outside the area of journalism, and 15 hours in a minor area approved by the School. The minor must be declared by the time a student has accrued 90 semester hours.

Students at community colleges are encouraged to complete general courses (equivalent of General Studies) and earn electives in areas of interest. It is preferred that students earn credit for courses in journalism skills at SIUC.

The School of Journalism is accredited by the professional accrediting agency, the American Council on Education for Journalism and Mass Communications.

The advertising specialization is a broad, yet intensive selection of specialized courses preparing the student to enter a wide variety of fields, including sales, copy writing, production, administration, retailing, and agency work.

The news-editorial specialization allows the student to take the general requirements of this sequence, plus a variety of electives in such areas as: community and suburban newspaper journalism, and magazine journalism.

Photojournalism--This specialization, administered jointly by the School of Journalism and the Department of Cinema and Photography, prepares students to be photographer-reporters, photo editors, and to work in other related positions.

Graduate degrees are available.

Representative First Job Titles: Advertising Agent, Advertising Campaigns Planner, Advertising Campaigns Controller, Advertising Campaigns Executive, Media Scheduling Officer, Mass Communication Analyst, Photographer/Reporter, Photo Editor, Writer, Editor, Public Opinion Polls Manager, Publications Staff, Publicity Staff, Sales Agent, Telecommunications Expert, Newspaper Reporter, Newspaper Management Staff, Mass Media Management Staff, Copywriter, Newspaper Columnist, Magazine Production & Design Staff, Cable Communication Specialist, Graphic Communication Specialist, Researcher, Public Affairs Reporter.

LANGUAGE ARTS (ENGLISH AND READING)College of Education
(Bachelor of Science)M. Frances Giles
Coordinator of Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135Dr. Billy Dixon, Chairperson
Telephone - 618-453-2239
Wham Building, Room 327

A major in language arts (English and reading) is offered through the Department of Curriculum Instruction and Media. The program is designed to meet the needs of students who wish to teach English language arts (including reading) at the junior/middle school level or who wish to teach high school students whose language skills are not up to high school level. The graduate of this program will be qualified to work with the language skills development which is crucial during early and middle adolescence.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 212, 300			
or 301	Intro. to American Government or U.S. History ²	-	4 (3)
GSC	Humanities (select) ¹	3	-
GSD 101	English Composition ²	3	-
GSD 153	Public Speaking ²	3	-
GSD 117, 118			
or 119	Writing (select) ^{1,2}	-	2
GSD 107	Intermediate Algebra	-	4
GSE 201	Healthful Living ²	-	2
GSE	Human Health & Well Being-activity (select) ^{1,2}	2	-
ED 201	Teacher's Role in Public School Education	-	1
Electives		2	3
		<u>16</u>	<u>16 (15)</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
GSB 202	Introduction to Psychology ²	-	3
GSC 200	Oral Interpretation of Literature ^{2,3}	3	-
GSC 365	Shakespeare ²	-	3
Electives		6	6
		<u>15</u>	<u>15</u>

¹Refer to the section General Studies for the Transfer Student.

²The following specific General Studies courses are required for teacher certification (these courses may be completed during the freshman and sophomore years): GSB 212, Introduction to American Government and Politics or GSB 300 or GSB 301, U.S. History; GSB 202, Introduction to Psychology; GSD 101, English Composition; GSD 117, 118, or 119, Expository, Technical, or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education Activity; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

³Required for major.

Southern Illinois University at Carbondale traditionally has had a strong interest in Latin America. An unusually large number of faculty specialists offer many courses related to that region and the Morris Library contains an outstanding collection of Latin American materials. The University initiated its Latin American Studies program in 1958 to prepare students for careers in business, education and government and to serve others who desired more information about the nations south of the United States. An interdisciplinary program, it includes training in language, the social sciences and humanities. Beyond the minimum core of courses required for the major, maximum flexibility is provided to tailor the curriculum to the needs and interests of the individual student.

Latin American Studies majors also complete a minor or other coherent program (usually 15 to 18 hours) in a standard discipline or career specialty.

The College of Liberal Arts grants the Bachelor of Arts degree in Latin American Studies. The Latin American Studies Advisory Committee supervises the program. Interested students should consult the director for the Latin American Studies major.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 104	The Human Experiences-Anthropology ²	3	-
GSB 212	Intro to American Gov't & Politics (select) ²	-	4
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118, or 119	English Composition and Writing (select) ¹	3	2
SPAN 140a,b	First Year Spanish ³	4	4
GSE	Human Health & Well Being (select) ¹	<u>2</u> 15	<u>2</u> 15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB 211	Contemporary Economics ²	-	3
GSC	Humanities (select) ¹	3	-
GSD	Speech (select) ¹	2 (3)	-
GSD	Math (select) ¹	-	4
SPAN 201a,b	Second Year Spanish ³	4	4
Elective ⁴		<u>3</u> 15 (16)	<u>-</u> 14

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Recommended but not required by the major.

³Required by the major.

⁴Elective hours should be used to explore areas of interest and enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

Representative First Job Titles: Translator, Interpreter, Visitors' Guide, Communication Officer, International Students Coordinator, Public Information Officer, International Relations Officer Writer, Border Patrol, Publications Staff, Archival Worker, Community Planning & Redevelopment Officer, Legislative Aide, International Trade Economist, International Banking Specialist, Stock Broker, Job Analyst, Loan Administrator, Market Research Analyst, Inspector, Immigration & Naturalization Dept., Museum Curator, Community Relations Officer, Manufacturer's Representative.

Law enforcement today demands a wide range of knowledge and ability to meet the complexities of modern society. This program is designed both for the individual entering the profession and for persons already serving in law enforcement who wish to upgrade their skills.

The student in this program will not be taught "police skills" that are taught in a police academy, such as firearms or personal defense. He or she will learn methods of crime control, criminal behavior, methods of crime detection, community problems in law enforcement, criminal law, and police administration. The student will develop an understanding of people and of interpersonal relationships.

The student will spend one term prior to graduation working under supervision with a police agency.

Police officers may enroll in the program on a part-time basis with the assurance that faculty members will help them to arrange classes compatible with their duty schedules.

Full transfer of credit is guaranteed to students who have completed certificate programs in law enforcement at cooperating community colleges.

An advisory committee made up of persons active in law enforcement assists the program.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
CLE 103	Introduction to Criminal Justice	3	-
CLE 105	Criminal Behavior	3	-
GSB 202	Introduction to Psychology	3	-
CLE 115	Interpersonal Relations in Criminal Justice	-	3
GSD 118	Technical Report Writing	-	2
CLE 108	Supervision in Criminal Justice	-	3
GSB 203	Sociological Perspective	-	4
CLE 220	Probation, Parole and Community Based Corrections	-	3
GSD 153	Public Speaking	-	3
CLE 205	Criminal Investigation	-	3
		<u>15</u>	<u>18</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
CLE 209	Criminal Law I	3	-
GSB 212	Intro to American Government & Politics	4	-
CLE 221	Police Administration	3	-
Electives	(From GSA, GSC or GSE)	4	-
CLE 210	Criminal Law II	-	3
CLE 215	Internship in Criminal Justice Practice	-	9
Electives	(From GSA, GSC or GSE)	-	3
		<u>14</u>	<u>15</u>

A minimum of 62 hours is required for this program.

Representative First Job Titles: Police Officer, Detective, State Police Officer, Investigator, Guard, Crime Scene Technician.

The objective of the undergraduate major in linguistics is to provide broad, general training in theoretical and applied linguistics. The major is designed to help the student achieve an awareness of the language systems of the past, an appreciation of modes of communication, and a fundamental understanding of the ever-changing linguistic environment in which he or she lives. Moreover, the analytical models of linguistics have been recognized since the 1930's by other disciplines (notably anthropology, psychology, and sociology) as significant research paradigms; education in linguistics methods trains a student to think analytically, to evaluate hypotheses, and to propose new solutions.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
FL	Foreign Language ²	4	4
GSD 101 & 117, 118, or 119	English Composition and Writing (select) ¹	3	2
GSD	Math (select) ¹	-	4
GSE	Human Health & Well Being (select) ¹	2	-
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
GSC	Humanities (select) ¹	-	3
FL	Foreign Language Second Year ²	4	4
GSD	Speech (select) ¹	-	2(3)
GSE	Human Health & Well Being (select) ¹	2	-
Electives ³		3	-
Math or CS	Mathematics or Computer Science ⁴	-	3
		<u>15</u>	<u>15 (16)</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, see the section, General Studies for the Transfer Student.

²There is a foreign language requirement for native speakers of English: (1) one year of an uncommon or non-Western language, or (2) two years of any foreign language. If the language in (2) were uncommon or non-Western, satisfying (2) would automatically satisfy (1). Students planning graduate study in linguistics should take three years of foreign language study. Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

³Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to fulfill Liberal Arts requirements (see College of Liberal Arts section).

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

Representative First Job Titles: Translator, Interpreter, Visitors' Guide, Communication Officer, International Students Coordinator, Public Information Officer, International Relations Officer, Writer, Border Patrol, Publications Staff, Archival Worker, Community Planning & Redevelopment Officer, Legislative Aide, International Trade Economist, International Banking Specialist, Stock Broker, Job Analyst, Loan Administrator, Market Research Analyst, Inspector, Immigration & Naturalization Dept., Museum Curator, Community Relations Officer, Manufacturer's Representative.

MARKETING

College of Business and Administration
(Bachelor of Science)

Dr. William Dommermuth
Telephone - 618-453-4341
General Classrooms Bldg., Room 229

Marketing consists of the performance of those activities associated with the flow of goods and services from producers to consumers and business users. The program is designed to provide the student with an understanding of the role of marketing in an economic system and in a business organization. Emphasis is upon the development of an analytical approach to the creative solution of marketing problems. Courses have been designed into a variety of sequences aimed at meeting the specific needs and the interests of students. These are: (1) General Marketing Administration, (2) International Marketing, (3) Industrial Marketing, (4) Sales Administration, (5) Promotional Administration, (6) Physical Distribution Administration, and (7) Retail Administration.

First Year		Fall	Spring
GSA	Science (select) ¹	3	6
GSB	Social Science (select) ¹	3	-
*GSB 202	Introduction to Psychology	3	-
GSC-3 or GSE-2	Humanities (select) ¹ or Human Health and Well Being	3 (2)	-
GSC	Humanities (select) ¹	-	3
*GSD 101 & 117, 118 or 119	English Composition & Writing (select) ¹	3	2
*MATH 116-5 or 139-3	Finite Mathematics and Algebra	3 (5)	-
*ADSC 208	Interpretation of Business Data	-	4
		15 (16)	15
Second Year		Fall	Spring
*ACCT 220, 230	Financial Managerial Accounting	3	3
*CS 212 or EDP 217	Intro. to Computer Programming (PL1) or Computing for Business Admin. (Fortran)	-	3
*MATH 117-5 or 140-4	Finite Mathematics and Calculus or Short Course in Calculus	4 (5)	-
*ECON 214, 215	Economics, Macro and Micro ²	3	3
GSA	Science (select) ¹	-	3
*GSD 153 or 152	Public Speaking or Interpersonal Communication	3 (2)	-
GSC-3 or GSE 2	Humanities (select) ¹ or Human Health and Well Being (select) ¹	3 (2)	-
GS - ---	General Studies Electives	-	3
		16 (15)	15

*Required course for a major in Marketing.

¹ To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

² Econ 214 or 215 counts toward GSB credit.

Marketing As A Major

Neither minor nor foreign language required.

Graduate degree available: MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is recognized by the American Assembly of Collegiate Schools of Business (AACSB).

Flexibility is available due to a limited number of required courses. Emphasis is on developing a program geared to individual students' interests and background.

See College of Business and Administration listing for their retention policy.

Representative First Job Titles: Marketing Assistant, Retail Marketing Representative, Consumer Marketing Area or Territorial Manager, Commercial/Industrial Marketing Representative, Sales Representative Trainee, Marketing Trainee, Market Analyst, Management Trainee, Food Service Sales Representative, Bond Representative, Benefits Analyst, Budget Accountant, Budget Administrator, Business and Economics Statistician, Business Planner, Controller, Management Analyst, Manufacturer's Representative, Market Research Analyst, Sales Manager, Product Manager, Operations Research Analyst, Credit Manager, Customer Services Officer, Public Relations Officer.

A standard college algebra and trigonometry course is available as one course or as separate courses to incoming freshmen to prepare them for a three semester sequence in calculus and analytic geometry. Most mathematics students will take an introductory linear algebra course while completing the calculus. Then they will select junior level courses from those in algebraic structures, analysis, number theory, geometry, differential equations, and probability.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSB 212, 300, or 301	American Government or U.S. History ³	-	4 (3)
GSC	Humanities (select) ²	3	-
GSD 101	English Composition ³	3	-
GSD 117 or 118 or 119	Writing (select) ^{2,3}	-	2
GSE 201	Healthful Living ³	2	-
*MATH 111	College Algebra and Trigonometry	5	-
MATH 150	Calculus I	-	4
CS 202	Introduction to Computer Programming	-	3
		<u>16</u>	<u>16 (15)</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	-
GSB	Social Studies (select) ²	-	3
GSB 202	Introduction to Psychology ³	3	-
GSC	English elective in Humanities (select) ^{2,3}	-	3
GSC	Humanities (select) ²	3	-
GSD 153	Public Speaking ³	-	3
GSE	Human Health and Well Being--activity ³	2	-
MATH 250	Calculus II	4	-
MATH 221	Introduction to Linear Algebra	-	3
MATH 319	Introduction to Abstract Algebra	-	3
MATH 319E	Modern Algebra Applied to Secondary Schools	-	1
ED 201	Teacher's Role in Public School Education	1	-
		<u>16</u>	<u>16</u>

*Approved substitute for GSD Math.

¹See also the program under the College of Liberal Arts. The College of Science also offers a B.S. in Mathematics.

²Refer to the section General Studies for the Transfer Student.

³The following courses are required for teacher certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics OR GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118, or 119, Expository, Technical, or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; One additional English course (GSC, GSD, or departmental); Math 111, College Algebra and Trigonometry.

Mathematics As A Major

Foreign language is not required for the Bachelor of Science degree in Education.

It is recommended that the following courses be completed during the first two years of the student's study: Math 111, 150, 250, 251, 221, Computer Science 202.

For specific major requirements see the Undergraduate Catalog.

A standard college algebra and trigonometry course is available as one course or as separate courses to incoming freshmen to prepare them for a three semester sequence in calculus and analytic geometry. Most mathematics students will take an introductory linear algebra course while completing the calculus. Then they will select junior level courses from those in algebraic structures, analysis, number theory, geometry, differential equations, and probability.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
Math 111	College Algebra and Trigonometry ²	5	-
Math 150	Calculus I ³	-	4
		<hr/> 14	<hr/> 15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	-	3
GSD	Speech (select) ¹	2(3)	-
GSE	Human Health and Well Being (select) ¹	-	2
Math 250	Calculus II ³	4	-
Math 251	Calculus III ³	-	3
Math 221	Introduction to Linear Algebra ³	-	3
CS 202	Introduction to Computer Programming ³	3	-
FL	Foreign Language ⁴	4	4
		<hr/> 16(17)	<hr/> 15

*See also the programs (B.S.) under the College of Education and the College of Science.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Proficiency exams can be taken in this course. Math III is a substitute for GSD Math.

³Required by major.

⁴Math majors must complete eight semester hours of one foreign language. Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC.

Mathematics As A Major

Students majoring in mathematics through the College of Liberal Arts must satisfy College requirements (see College of Liberal Arts section). Students must earn a grade of "C" or higher in mathematics courses numbered 150 or above. Also, math majors must complete six additional hours in an approved area for a secondary concentration.

The Department of Mathematics has graduate programs at both the Master's and Doctoral levels.

Graduates of this program find employment in various organizations which rely on the use of mathematical principle and procedures in phases of their operation or they often take teaching positions. Many industries that hire mathematicians are engineering or science oriented such as aircraft and missile, chemical, electrical equipment, fabricated metals, and petroleum industries, but also employers are hiring mathematicians in business and economic related positions to help with managerial decisions. Excellent career opportunities exist in statistical and actuarial work launched from undergraduate mathematics programs, and mathematics graduates are highly valued in MBA (Master of Business Administration) programs.

Honors work available.

Representative First Job Titles: Junior Systems Analyst, Actuary (or Actuarial Assistant), Cryptographer, Mathematician, Operations Research Analyst, Statistician, Biometrician, Demographer, Contract Administrator, Inventory Controller, Investment Analyst, Wage-Salary Administrator, Computing Analyst, Cyberneticist, Information Scientist, Accounting Trainee, Research Mathematician, Mathematical Programmer, Methods Analyst, Technical Sales Representative, Market Analyst.

A standard college algebra and trigonometry course is available as one course or as separate courses to incoming freshmen to prepare them for a three semester sequence in calculus and analytic geometry. Most students will take an introductory linear algebra course while completing the calculus. Then they will select junior level courses from those in algebraic structures, analysis, number theory, geometry, differential equations, and probability.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
	Biological Sciences ¹	3	3
GSC	Social Science (select) ²	3	3
GSC	Humanities (select) ²	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ²	3	2
Math 111	College Algebra and Trigonometry ³	5	-
Math 150	Calculus I ³	-	4
GSE	Human Health & Well Being (select) ²	1	1
		<hr/> 15	<hr/> 16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
	Physical Sciences ¹	3	3
GSC	Social Science (select) ²	-	3
GSC	Humanities (select) ²	3	-
GSD	Speech (select) ²	2(3)	-
GSE	Human Health and Well Being (select) ²	-	2
FL	Foreign Language ⁴	4	4
Math 250, 251	Calculus II and III ³	4	3
		<hr/> 16(17)	<hr/> 15

*See also the programs (B.S.) under the College of Liberal Arts and the College of Education.

¹The College of Science requires six semester hours in departmental (not GSA) biological sciences, and six semester hours in departmental (not GSA) physical sciences. Choosing from the following will also meet General Studies requirements: Biology 305, 306, 307, 308, 309; Botany 200; Zoology 118; Physiology 210; Chemistry 115, 140 222, 224, 225; Geology 22; Physics 203, 205 253, 255. See list of approved substitutions for specifics.

²See section on General Studies for the transfer student.

³Required by major.

⁴The College of Science requires one year (8 semester hours) of foreign language. French, German, or Russian is recommended. One semester of foreign language will substitute as GSC humanities credit.

As A Major

Students majoring in through the College of Science must satisfy that College requirements (see College of Science section). Students must earn a grade of "C" or higher in courses numbered 150 or above. Also, math majors must complete six additional hours in an approved area for a secondary concentration.

The Department of has graduate programs at both the Master's and Doctoral levels.

Graduates of this program find employment in various organizations which rely on the use of mathematical principle and procedures in phases of their operation or they often take teaching positions. Many industries that hire mathematicians are engineering or science oriented such as aircraft and missile, chemical, electrical equipment, fabricated metals, and petroleum industries, but also employers are hiring mathematicians in business and economic related positions to help with managerial decisions. Excellent career opportunities exist in statistical and actuarial work launched from undergraduate programs, and graduates are highly valued in MBA (Master of Business Administration) programs.

Honors work available.

Representative First Job Titles: Junior Systems Analyst, Actuary (or Actuarial Assistant), Cryptographer, Mathematician, Operations Research Analyst, Statistician, Biometrician, Demographer, Contract Administrator, Inventory Controller, Investment Analyst, Wage-Salary Administrator, Computing Analyst, Cyberneticist, Information Scientist, Accounting Trainee, Research Mathematician, Mathematical Programmer, Methods Analyst, Technical Sales Representative, Market Analyst.

Microbiology deals with the study of micro-organisms, including bacteria, viruses, rickettsiae, protozoa, fungi, and yeasts, examining their morphology, classification, growth, reproduction, heredity, biochemistry, ecology, and their relationship to other living organisms including man. The following program of study prepares one for graduate study leading to advanced degrees or for laboratory or teaching positions after the bachelor's degree.

Opportunities for specialized training in diagnostic bacteriology, virology, immunology, genetics, biochemistry and industrial processes are available.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
FL	Foreign Language ^{1,3}	4	4
CHEM 222a,b	Introduction to Chemical Principles ^{1,3}	4	4
MATH 110a,b or MATH 111	College Algebra and Trigonometry ³	3 (5)	2 (-)
GSA 115	Biology	-	3
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
GSE	Human Health and Well Being	1	1
		15 (17)	16 (14)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
MICR 301	Principles of Microbiology	3	-
MICR 302	General Microbiology ³	-	3
BIOL 305	Genetics-Classical & Molecular ^{1,3}	3	-
BIOL	Biology (select) ^{1,2,3}	-	3
CHEM 344, 345, and 346, 347	Organic Chemistry and Lab	6	5
PHYS 203a,b and 253a,b	College Physics and Lab	4	4
GSE	Human Health and Well Being (select)	-	1
		16	16

¹Approved substitutes for General Studies.

²Any one of Biology 306, 307, 308, 309.

³Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

Third and Fourth Years

The student fulfills remaining General Studies requirements, and chooses electives in microbiology to match his or her professional interests.

Microbiology As A Major

A student may direct his or her career toward such fields as: (1) the clinical and public health laboratory; (2) the food and beverage industries; (3) pharmaceutical industries involving the discovery and production of antibiotics and other therapeutic drugs, the discovery and production of vaccines, possibly effective even against cancer; (4) the soap and detergent industries; (5) agriculture by enriching and maintaining the fertility of the soil and by controlling diseases which ravage our cultivated crops and livestock. Excellent teaching opportunities exist at the university level for the holder of the doctor's degree. A microbiologist planning a teaching career at the secondary school level should acquire a broad background in general biology. In addition to the academic career, high-salaried positions are to be found in many of the local, state, and federal agencies, as well as in industry, by the microbiologist with a good capacity for pure or applied research.

Graduate programs available.

Representative First Job Titles: Microbiologist, Medical Bacteriologist, Soil Microbiologist, Food Bacteriologist, Medical Laboratory Assistant, Technical Maintenance Personnel, Microbiostatistician, Embryologist, Genetics Research Technician, Serologist, Histologist, Cytologist, Parasitologist, Virologist, Microbiology Researcher, Wine Chemist, Fishery Bacteriologist, Quality Control Specialist, Biological Photography Staff, Manufacturer's Representative.

MORTUARY SCIENCE AND FUNERAL SERVICES

School of Technical Careers
(Associate in Applied Science)

Don Hertz
Program Coordinator
Telephone - 618-536-6682
STC - Building, Room 18C

SIUC offers the only public Mortuary Science and Funeral Service program in the State of Illinois.

Licensing and qualification requirements vary from state to state since laws governing the profession are enacted at a state level. Licensure in one state does not assume automatic qualification in another but many state boards have some reciprocal agreements with other states.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 106	Chemistry for Non-Science Majors	3	-
GSA 115	Biology	3	-
GSB 202	Introduction to Psychology	3	-
GSD 101	English Composition	3	-
GSD 153	Public Speaking	-	3
Acct 110	Applied Accounting	-	3
Scr 208	Applied Law	-	3
GSD 117,118 or 119	Expository, Technical Report, or Creative Writing or		
STC 102	Technical Writing	-	2
MS 101	Orientation to Funeral Service	3	-
MS 102	Restorative Art	4	-
MS 108	Funeral Service Psychology	-	3
Elective	Health Education	-	2
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
MS 225a,b	Embalming Theory and Practice	4	4
MS 230	Mortuary Anatomy	4	-
MS 250a,b	Mortuary Management	4	4
MS 256	Introductory Microbiology	-	4
MS 257	Pathology	-	4
		<u>12</u>	<u>16</u>
		<u>Summer</u>	
MS 375a	Internship--Management	4	
MS 375b	Internship--Embalming	4	
MS 380	Funeral Service	2	
		<u>10</u>	

Mortuary Science As A Major

The Illinois statute governing the practice of funeral directing and embalming indicates the following requirements for those individuals who would secure the funeral director's and embalmer's trainee licenses:

1. A candidate must be at least eighteen years of age, a citizen of the United States and a resident of the state of Illinois; and be of good moral character and temperate habits.
2. He or she must successfully complete one academic year in a college or university approved and recognized by the Illinois Department of Registration and Education in addition to successfully completing a course of instruction of at least one year duration in a professional school or college teaching the practice of funeral directing and embalming.
3. He or she must study funeral directing or embalming in the state of Illinois under a funeral director or embalmer licensed by the state for a combined period of one year as a registered trainee.
4. A candidate must successfully pass licensure examinations administered by the State Board of Examiners in Funeral Directing and Embalming.

Successful completion of the program meets the education requirements in Illinois and many other states.

Prospective students should contact the licensing body of the state in which they decide to attempt licensure.

Representative First Job Titles: Funeral Director Trainee, Embalmer Trainee.

The bachelor of arts program is designed to provide a basis for various part time and musically related careers such as church music, music therapy, popular music, private applied teaching, and occupations within the field of music industry and communications. Ordinarily, additional study, comparable to the Bachelor of Music curriculums offered in the College of Communications and Fine Arts, is necessary to qualify for a full time professional career in teaching, conducting, composition, or research.

This music major degree program is established in accordance with the published regulations of the National Association of Schools of Music, of which the School of Music is a member.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSB	Social Studies (select) ²	3	3
GSC	Humanities (select) ²	-	3
GSD 101, 117	English Composition; Expository Writing	3	2
GSD 107	Intermediate Algebra	4	-
GSE	Human Health and Well Being (select) ²	1	1
*MUS 102	Survey of Music Literature	-	2
*MUS 140	Applied Music (principal instrument)	2	2
*MUS	Major Ensemble (see below)	1	1
		17	17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	-
GSB	Social Studies (select) ²	-	3
GSD 152	Interpersonal Communication	-	2
GSE	Human Health and Well Being (select) ²	1	1
GSC	Humanities (select) ²	3	3
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
*MUS 240	Applied Music (principal instrument)	2	2
*MUS	Major Ensemble (see below)	1	1
		14	16

*Required courses for a major in Music.

¹See also music education program in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student. Music 102-2 and 105a-3 count toward GSC requirements.

Third and Fourth Years

After completion of the first year core, each student's program is planned according to individual needs and goals. The Bachelor of Arts in music requires a total of 40 semester hours of music courses.

Music as a Major

Credits in one's principal applied field are based on (1) private lessons with a member of the faculty, (2) weekly participations in Studio hour (Mondays at 10:00 a.m.), and (3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011 Marching Salukis, Music 013 Symphonic Band, 014 Concert Wind Ensemble, 017 Symphony, 020 University Chorus, 021 SIU Chorale, or 022 University Choir.

Representative First Job Titles: Church Organist, Folk Music Specialist, Assistant to Music Director, Popular Music Specialist, Dance Band Musician.

MUSIC¹

(Instrumental Performance)
College of Communications and Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-453-2263
Altgeld Hall, Room 105

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as an instrumentalist and/or private applied teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enrolls for and receives two half-hour lessons per week for 4 credits per term in applied music.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	-	3
GSC	Humanities (select) ²	-	2
GSD 101, 117	English Composition; Expository Writing	3	2
GSE	Human Health and Well Being (select) ²	2	-
*MUS 140	Applied Music (principal instrument)	2	2
*MUS 030a,b	Piano Class ³	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
		15	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	-	3
GSB	Social Sciences (select) ²	-	3
GSD 107	Intermediate Algebra	4	-
GSE	Human Health and Well Being (select) ²	1	1
*MUS 240	Applied Music (principal instrument)	4	4
*MUS 030c,d	Class Piano ³	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Contrapuntal Techniques	-	2
		15	15

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of Music classes and to avoid spending additional time completing the bachelor's degree.

¹ Music Education is also available in the College of Education.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student. Music 102-2 and 105a-3 count toward GSC requirements.

³ Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Sumphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Popular Music Specialist, Classical Music Specialist, Dance Band Player, Symphony Orchestra Artist, Rock Group Artist, Jazz Group Artist, Solo Performer, Music Marketing Specialist, Television Artist, Opera Artist, Folk Music Specialist, Composition Writer, Music Conductor, Instrumental Conductor, Instrumental Soloist, Choral Group Artist, Strings Instruments Specialist, Brass Instruments Specialist, Woodwinds Instruments Specialist, Assistant to Music Director, Church Organist, Music Librarian, Music Therapist, Rhythm Instruments Specialist.

MUSIC¹

(Keyboard Performance)
College of Communications and
Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-453-2263
Altgeld Hall, Room 105

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as a keyboard performer and/or private applied teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enrolls for and receives two half-hour lessons per week for 4 credits per term in applied music.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSB	Social Studies (select) ²	-	3
GSD 101, 117	English Composition; Expository Writing	3	2
*Mus 140	Applied Music (principal instrument)	2	2
*Mus	Major Ensemble (see below)	1	1
*Mus 102	Survey of Music Literature	2	-
*Mus 104a,b	Aural Skills	1	1
*Mus 105a,b	Basic Harmony	3	3
		<u>15</u>	<u>15</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	-
GSC	Humanities (select) ²	-	3
GSD 152,	Interpersonal Communication	2	-
GSD 107	Intermediate Algebra	-	4
GSE	Human Health and Well Being (select) ²	1	1
*Mus 240	Applied Music (principal instrument)	4	4
*Mus	Major Ensemble (see below)	1	1
*Mus 204	Advanced Aural Skills	1	-
*Mus 205	Advanced Harmony	3	-
*Mus 207	Contrapuntal Techniques	-	2
		<u>15</u>	<u>15</u>

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student. Music 102-2 and 105a-3 count toward GSC requirements.

Music As A Major

Credits in one's principal applied field are based on (1) private lessons with a member of the faculty, (2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and (3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Popular Music Specialist, Classical Music Specialist, Dance Band Player, Symphony Orchestra Artist, Rock Group Artist, Jazz Group Artist, Solo Performer, Music Marketing Specialist, Television Artist, Opera Artist, Folk Music Specialist, Composition Writer, Music Conductor, Instrumental Conductor, Instrumental Soloist, Choral Group Artist, Strings Instruments Specialist, Woodwinds Instruments Specialist, Assistant to Music Director, Church Organist, Music Librarian, Music Therapist, Rhythm Instruments Specialist.

One of the newer options in the School of Music is the Music Business specialization. This program is designed for students planning careers in business and aspects of the music profession other than performance, education, composition, or history-literature. Beginning with the second year, students take courses not only in music but also in accounting, administrative sciences, economics, finance, and marketing.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
ECON 215	Introduction to Microeconomics ¹	-	3
GSD 101, 117	English Composition, Expository Writing	3	2
GSD	Mathematics (select) ²	-	4
GSE	Human Health and Well Being (select) ²	2	1
GSA 101	Conceptual Insights into Modern Communications Systems ³	3	-
MUS	Major Ensemble ⁴	1	1
MUS 040-240	Applied Music (principal instrument) ⁴	1	1
MUS 102	Survey of Music Literature ^{1,4}	2	1
MUS 104 a,b	Aural Skills ⁴	1	1
MUS 105 a,b	Basic Harmony ^{1,4}	3	3
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSD	Speech (select) ²	-	2 (3)
GSA 361	Acoustics of Music ⁴	3	-
ACCT 220, 230	Principles of Accounting I,II ⁴	3	3
MUS 030	Piano Class ⁴	1	1
MUS 040-240	Applied Music (Principal Instrument)	1	1
MUS 031	Voice Class	1	-
GSE	Human Health and Well Being (select) ²	-	1
MUS	Major Ensemble ⁴	1	1
GSA	Science (select) ²	3	-
GSC	Humanities (select) ²	3	3
GSB	Social Science (select) ²	-	3
		<u>16</u>	<u>15 (16)</u>

¹Approved substitutes for General Studies.

²See Section on General Studies for transfer students.

³Recommended but not required by major.

⁴Required by Music Major, music business specialization. Students who plan to transfer from community colleges with an associate's degree should complete comparable music courses in order to avoid spending extra time pursuing the bachelor's degree.

Music As A Major

Credits in one's principal applied field are based on (1) private lessons with a member of the faculty, (2) weekly participations in Studio hour (Mondays at 10:00 a.m.), and (3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011 Marching Salukis, 013 Symphonic Band, 014 Concert Wind Ensemble, 017 Symphony, 020 University Chorus, 021 SIU Chorale, or 022 University Choir.

Representative First Job Titles: Music Marketing Specialist, Audio-Marketing, Management Trainee for Recording Studio, Fund Raiser for Opera Company, Instrument Sales, Dulcimer Manufacturer.

MUSIC¹
(Music History-Literature)
College of Communications and
Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-453-2263
Altgeld Hall, Room 105

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career in musical research and criticism and/or college teaching in these areas.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select) ²	-	3
GSD 101,	English Composition	3	-
GSD 107	Intermediate Algebra	-	4
GSE	Health and Physical Development (select) ²	-	2
*Mus 140	Applied Music (principal instrument)	2	2
*Mus 030a,b	Class Piano ³	1	1
*Mus	Major Ensemble (see below)	1	1
*Mus 102	Survey of Music Literature	2	-
*Mus 104a,b	Aural Skills	1	1
*Mus 105a,b	Basic Harmony	3	3
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSC 152	Interpersonal Communication	-	2
GSD 117	Expository Writing	2	-
GSE	Human Health and Well Being (select) ²	1	-
*For Lang	French or German	4	4
*Mus 240	Applied Music (principal instrument)	2	2
*Mus	Major Ensemble (see below)	1	1
*Mus 204	Advanced Aural Skills	1	-
*Mus 205	Advanced Harmony	3	-
*Mus 207	Contrapuntal Techniques	-	2
*Mus 357a or b	Music History	-	3
		<u>14</u>	<u>14</u>

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹ Music Education is also available in the College of Education.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student. Music 102-2, 105a-3 and the second semester of foreign language count toward GSC requirements.

³ Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major

Credits in one's principal applied field are based on (1) private lessons with a member of the faculty, (2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and (3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Popular Music Specialist, Classical Music Specialist, Dance Band Player, Symphony Orchestra Artist, Rock Group Artist, Jazz Group Artist, Solo Performer, Music Marketing Specialist, Television Artist, Opera Artist, Folk Music Specialist, Composition Writer, Music Conductor, Instrumental Conductor, Instrumental Soloist, Choral Group Artist, Strings Instruments Specialist, Brass Instruments Specialist, Woodwinds Instruments Specialist, Assistant to Music Director, Church Organist, Music Librarian, Music Therapist, Rhythm Instruments Specialist.

MUSIC¹
(Music Theory-Composition)
College of Communications and
Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-453-2263
Altgeld Hall, Room 105

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as a musical composer and/or college teacher of music theory-composition.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	-	3
GSC	Humanities (select) ²	-	2
GSD 101, 117	English Composition; Expository Writing	3	2
GSE	Human Health and Well Being (select) ²	2	-
*MUS 140	Applied Music (principal instrument)	2	2
*MUS 030a,b	Class Piano ³	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
		15	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	-	3
GSC	Humanities (select) ²	-	3
GSD 107	Intermediate Algebra	4	-
GSE	Human Health and Well Being (select) ²	1	1
*MUS 240	Applied Music (principal instrument)	2	2
*MUS 030c,d	Class Piano ³	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Contrapuntal Techniques	-	2
*MUS 280	Beginning Composition	2	2
		14	14

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major

Credits in one's principal applied field are based on (1) private lessons with a member of the faculty, (2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and (3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Popular Music Specialist, Classical Music Specialist, Dance Band Player, Symphony Orchestra Artist, Rock Group Artist, Jazz Group Artist, Solo Performer, Music Marketing Specialist, Television Artist, Opera Artist, Folk Music Specialist, Composition Writer, Music Conductor, Instrumental Conductor, Instrumental Soloist, Choral Group Artist, Strings Instruments Specialist, Brass Instruments Specialist, Woodwinds Instruments Specialist, Assistant to Music Director, Church Organist, Music Librarian, Music Therapist, Rhythm Instruments Specialist.

MUSIC¹

(Vocal Performance)
College of Communications and
Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-453-2263
Altgeld Hall, Room 105

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as a singer and/or private applied teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enrolls for and receives two half-hour lessons per week for 4 credits per term in applied music.

First Year		Fall	Spring
GSD 101, 117	English Composition; Expository Writing	3	2
GSD 107	Intermediate Algebra	-	4
GSE	Human Health and Well Being (select) ²	2	1
*MUS 140P	Applied Music (voice)	2	2
*MUS 030a,b	Piano Class ³	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
		15	15
Second Year		Fall	Spring
GSA	Science (select) ²	-	3
GSE	Human Health and Well Being (select) ²	1	-
*For Lang	French or German	4	4
*MUS 240P	Applied Music (voice)	4	4
*MUS 030c,d	Class Piano ³	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Contrapuntal Techniques	-	2
		15	15

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student. Music 102-2, 105a-3 and the second semester of foreign language count toward GSC requirements.

³Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major

Credits in one's principal applied field are based on (1) private lessons with a member of the faculty, (2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and (3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, Music 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Popular Music Specialist, Classical Music Specialist, Dance Band Player, Symphony Orchestra Artist, Rock Group Artist, Jazz Group Artist, Solo Performer, Music Marketing Specialist, Television Artist, Opera Artist, Folk Music Specialist, Composition Writer, Music Conductor, Instrumental Conductor, Instrumental Soloist, Choral Group Artist, Strings Instruments Specialist, Brass Instruments Specialist, Woodwinds Instruments Specialist, Assistant to Music Director, Church Organist, Music Librarian, Music Therapist, Rhythm Instruments Specialist.

MUSIC EDUCATION¹

(Music Education - Instrumental or Choral)
College of Education
(Bachelor of Science)
College of Communications and Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
School of Music Telephone - 618-453-2263
Altgeld Hall, Room 105

M. Frances Giles
Coordinator of Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 108

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Science (select) ²	-	3
GSA	Science (select) ²	3	3
GSD 101 and 117, 118 or 119	English Composition and Writing	3	2
GSE 201	Healthful Living	2	-
*MUS 140	Applied Music (principal instrument)	2	2
*MUS 030a,b	Piano Class ³	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
*MUS 102	Survey of Music Literature	-	2
		<u>16</u>	<u>18</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSC	Humanities (select) ²	3	-
GSC	English elective in Humanities	-	3
GSA 361	Acoustics of Music	3	-
GSB 212, 300 or 301	American Government or U.S. History	4 (3)	-
GSB 202	Introduction to Psychology	-	3
GSD 107	Intermediate Algebra	-	4
GSD	Speech	-	2 (3)
GSE	Human Health and Well Being - Activity	2	-
*MUS 240	Applied Music (principal instrument)	2	2
*MUS	Major Ensemble (see below)	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 034, 035	Brass Class; WW Class (for Instrumental Music)	1	2
or MUS 030a,b	Piano Class ³ (for choral Music Education)	(1)	(1)
		<u>17 (18)</u>	<u>17 (18)</u>

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of Music well in advance to determine the comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music education curriculums are available in both the College of Communication and Fine Arts and the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

The following courses are required for Teacher Certification: GSB 202, Introduction to Psychology; GSB 212 or GSB 300 or 301; GSD 101; GSD 117 or 118 or 119; GSD Speech; GSE 100-114 (2 hours); GSE 201; plus one additional English course from GSC, GSD or departmental.

Music As A Major

Students interested in this specialization should become aware of the requirements for entering the Teacher Education Program (explained in another section of this text).

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011, Marching Salukis; Music 013, Symphonic Band; 014, Concert Wind Ensemble; 017, Symphony; 020, University Chorus; 021, SIU Chorale; or 022, University Choir.

NURSING, ASSOCIATE DEGREE

School of Technical Careers
(Associate of Applied Science
in Nursing)

Alice Hees
Program Coordinator
Telephone - 618-536-6682
STC Building, Room 18A

The Associate Degree in Nursing Program offered through the Southern Illinois Collegiate Common Market is developed as an open curriculum model and is designed to provide career mobility for persons who have completed a practical nursing program or its equivalency through formal or informal methods. Students will be given an opportunity to validate past experiences through utilization of a comprehensive testing program. After assessment by the nursing faculty, an individualized prescriptive educational program will be developed with each student.

This unique program is designed to prepare the student for the practice of nursing as defined in the Illinois Nurse Practice Act and meets the requirements for accredited schools in associate degree nursing in Illinois.

Upon satisfactory completion of the program, the student will be eligible to write the Illinois State Board Nursing Examination. The student is responsible for his or her learning and will become a registered Nurse upon successfully passing this exam.

First Year

Provide evidence of having graduated from an approved program of practical nursing or its equivalent.

Second Year

		Fall	Spring
ADN 201	Introduction to Nursing and Science	3	-
ADN 202	Maternal-Child Nursing Interventions	2	-
ADN 203	Psychiatric Nursing Interventions	-	3
ADN 204	Neurological-Sensory Nursing Interventions	-	2
ADN 206	Orthopedic Dermatological Nursing Interventions	-	3
ADN 207	Genital-Urinary Nursing Interventions	3	-
ADN 208	Metabolic-Endocrine Nursing Interventions	2	-
ADN 209	Community Health Nursing	-	2
ADN 210	Cardiovascular Nursing Interventions	-	3
ADN 211	Respiratory Nursing Interventions	-	2
ADN 214	Pediatric Nursing Interventions	3	-
*GS	General Education	6	6
		19	21

Third Term

ADN 213	Nursing Today and Tomorrow	2
**GS	General Education	3
		5

*Required General Education

GSD - 5 hours (2 areas); GSB 203-4; GSB 202-3

**To be selected by student, dependent on need or interest.

Nursing As A Major

A graduate of this program who has passed the Illinois State Board Nursing Examination will be a Registered Nurse and be able to carry out nursing and other therapeutic measures with a high degree of skill using principles from an ever expanding body of science. The licensed registered nurse performs nursing functions with patients who are under the supervisory care of a physician and assists in the planning of the day-to-day care of patients; evaluating the patient's physical and emotional reactions to therapy; taking measures to alleviate distress using treatment modalities with knowledge and precision; and supervising other workers in the technical aspects of care.

A minimum of 65 hours credit is required for the associate degree.

Representative First Job Titles: Hospital Staff Nurse, Industrial Nurse, Public Health Nurse, Private Duty Nurse, Office Nurse.

OCCUPATIONAL EDUCATION
(Occupational Teaching)
(Pre-Occupational Teaching)
(Secondary School Occupational Teaching)
College of Education
(Bachelor of Science)

M. Frances Giles, Coordinator
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Marcia Anderson, Chairperson
Vocational Education Studies
Telephone - 618-453-3321
Wham Building, Room 146

There are three specializations in Occupational Education, each leading to the Bachelor of Science in Education degree. Programs include specializations in pre-occupational teaching, secondary occupational teaching and occupational teaching. The specializations in pre-occupational teaching and secondary occupational teaching lead to entitlement to a Standard High School Teaching Certificate.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 101	Conceptual Insights into Modern Communication Systems	3	-
GSA 106	Chemistry for Non-Science Majors	-	3
GSB 212	Intro. to American Government and Politics ²	4	-
GSB 202	Introduction to Psychology ²	-	3
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition ²	3	-
GSD 117, 118			
or 119	Writing (select) ^{1,2}	-	2
GSE 201	Healthful Living ²	-	2
GSE	Human Health and Well Being - Activity ²	1	-
ED 201	Teacher's Role in Public School Education	-	1
Elective		2	2
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Studies (select) ¹	3	-
GSC	English in Humanities (select) ^{1,2}	3	-
GSD	Mathematics (select) ¹	-	4
GSD 153	Public Speaking ²	3	-
GSE	Human Health and Well Being - Activity ²	-	1
VES 360A,B	Vocational, Occupational & Career Simulation Cluster Studies	3	3
VES 362	Vocational, Occupational & Career Orientation & Exploration	-	3
Elective		-	4
		<u>15</u>	<u>15</u>

¹ Refer to the section General Studies for the Transfer Student.

² The following courses are required for teacher certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics, or GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; one additional English course (GSC, GSD or departmental).

Refer to the Undergraduate Catalog for specific major requirements.

Special Note to Community College Personnel: The programs in occupational teaching and secondary school occupational teaching require the equivalent of an associate degree in a technical specialty for admission. Therefore, the two-year recommended program above applies only to the pre-occupational teaching specialty.

The Paralegal Studies Program, leading to a B.S. degree in Paralegal Studies in the College of Liberal Arts, will prepare the graduate to function as a paraprofessional in the legal profession and as a legal administrator, whether in private practice, legal aid offices, or the law-related operations of business, industry, education, or government.

In overall philosophy, as well as in curriculum content and format, the Paralegal Studies Program follows the lead of the American Bar Association Special Committee on Legal Assistants in its "Proposed Curriculum for the Training of Law Office Personnel."

The program has two components:

1. A core of legal specialty courses and administration related courses designed to provide career specificity and professional competency.
2. A range of social science, humanities, and communication skills courses designed to provide a spirit of inquiry and a depth of vision of the various contexts within which the paralegal's professional life will take place.

In addition, the student must meet all University requirements as well as appropriate College of Liberal Arts requirements.

The Program will begin accepting majors in Fall 1983.

The Philosophy Department offers a broad range of courses covering the areas of ethics, aesthetics, logic, metaphysics, the history of both Western and Oriental philosophy, as well as art, education, history, and religion.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	3
GSC 102 or 104 GSD 101 & 117, 118 or 119	Problems in Philosophy or Moral Decision ²	-	3
GSD	English Composition and Writing (select) ¹	3	2
GSD	Math (select) ¹	4	-
GSE	Human Health and Well Being (select) ¹	2	2
Math or CS	Mathematics or Computer Science ³	-	3
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	-
GSC or FL	Humanities (select) ¹ or Foreign Language ⁴	3(4)	3(4)
GSC 208 or 207	Elementary Logic or Aesthetics ²	-	3 (2)
GSD	Speech (select) ¹	2(3)	-
Phil	Ancient Philosophy ⁵	3	-
Phil	Modern Philosophy ⁵	-	3
Elective ⁶		-	6
		<u>14-16</u>	<u>14-16</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²No more than 2 courses or 6 hours on the 100 and 200 level will count toward the major.

³One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁵Required course for a major in Philosophy.

⁶Elective hours should be used to explore areas of interest and enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

Philosophy As A Major

The program in philosophy is an excellent background for future work in law schools, seminaries, government service and other professional areas, as well as graduate school. The Department maintains its own advisement system to help the student design a program which best suits his or her interests and needs. The Honors Program in Philosophy provides students a chance to participate in seminars on a variety of topics.

Representative First Job Titles: Researcher, Minister, Technical Writer, Community Relations, Employee Relations, Grievances Specialist, Public Relations, Publications Officer, Alcoholism & Drug Addiction Researcher, Archival Worker, Museum Curator, Public Information Specialist, Mediator, Civic Reform Studies Specialist, Sales Trainee, Delinquency Prevention Specialist, Group Interaction Studies Specialist, Morale Studies Specialist, Public Health Investigator, Motivational Researcher, Librarian.

PHOTOGRAPHIC PRODUCTION TECHNOLOGY

School of Technical Careers
(Associate in Applied Science)

Robert White
Program Coordinator
Telephone 618-536-6682
Blue Barracks

The Photographic Production Technology Program in the School of Technical Careers is a two-year program recognized by Photo Marketing Association International.

Technical photographic courses are designed to prepare students as photographic laboratory technicians or photo finishers in industrial and commercial photographic processing agencies. Emphasis is placed on quality black and white and color photographic processes and materials. Students will study photographic techniques in lecture/laboratory sessions and tour industrial and commercial photographic processing agencies to obtain practical understanding of commercial systems. The student should expect to invest approximately \$700 for the production of a portfolio and for the purchase of special photo chemicals and supplies. Students are to provide their own fully adjustable cameras.

The following representatives of the profession serve on an advisory committee which helps to keep the program responsive to the needs in the field. Current advisors are: Oscar Fisher, President, Oscar Fisher Company, Newburgh, N.Y.; Gary Rossman, Director of Education, Photo Marketing Association, Jackson, Mich.; Sam Fox, President, Ethol Chemical Company, Chicago, Ill.; Norbert Dompke, President, Root Photographers, Chicago, Ill.; John Bellezza, Sales Manager, Root Photographers, Chicago, Ill.; Don Beyer, Director, Photographic Services, Standard Oil, Chicago, Ill.; David Goldstein, President, D.O. Industries, Rochester, N.Y.

Students will find job opportunities throughout industry for quality technicians. Graduates are limited only by their own talent, motivation, and willingness to move to where jobs are available. Job pay is directly commensurate with the technician's ability, resourcefulness, and drive.

First Year

		<u>Fall</u>	<u>Spring</u>
GSA 106	Chemistry for Non-Science Majors	3	-
GSD 113	Introduction to Mathematics	-	2
SCR 100	Typewriting	-	2
PDT 111	Photo Processing I	4	-
PDT 113	Photo Processing II	4	-
PDT 115	Photo Equipment Operation	4	-
PDT 209	Graphics for Photography	-	4
PDT 211	Photo Processing III	-	6
		<u>15</u>	<u>14</u>

Second Year

		<u>Fall</u>	<u>Spring</u>
GSB 305	Personal Finance	-	3
GSD 101	English Composition	3	-
GSD 152	Interpersonal Communication	2	-
EDP 217	Computing for Business Administration	-	3
PDT 215	Photo Processing IV	6	-
PDT 221	Photo Processing V	6	-
PDT 251a,b	Photo Lab Management	-	12
		<u>17</u>	<u>18</u>

Photographic Production Technology As A Major

A minimum of 64 credit hours is required for the major in photographic production technology. This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

The Physical Education concentration is intended to qualify young people for positions as teachers, coaches, or specialists in public and private elementary or secondary schools, colleges, and universities as well as other social agencies which promote physical activity programs. Courses have been designed to meet the requirements of state departments of education and other agencies which have adopted professional standards.

Complete and integrated experience in teaching physical education and assisting in coaching under qualified supervisors is provided in the cooperating schools of the area. Added experiences are gained through membership in the Physical Education Club; membership in professional associations; participation on intramural teams; assisting in service class testing; professional journals; and working with recreational and school groups in teaching techniques of various activities.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 209	Principles of Physiology	3	-
GSB 300, 301 or 212	History of U.S. or American Government ²	-	3 (4)
GSB 202	Introduction to Psychology ²	3	-
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition ²	3	-
GSD 117, 118 or 119	Writing (select) ^{1,2}	-	2
GSD	Mathematics (select) ¹	-	4
GSE 201	Healthful Living ²	2	-
EDUC 201	Teacher's Role in Public School Education	1	-
Electives		-	3
		<u>15</u>	<u>15 (16)</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
GSC	English Elective in Humanities (required) ²	-	3
GSD 153	Public Speaking ²	2	-
GSE	Human Health and Well Being ²	-	2
PE	Electives	<u>7</u>	<u>7</u>
		<u>15</u>	<u>15</u>

¹ Refer to the section General Studies for Transfer Students.

² The following courses are required for teacher certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government, or GSB 300 or GSB 301, U.S. History; GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical Report or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours) Physical Education activity; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

Physical Education As A Major

A secondary concentration (the student may select the area) is recommended.

Refer to the Undergraduate Catalog for specific major requirements.

Minors are available in Aquatics, Athletic Training, Coaching, and Dance.

PHYSICAL THERAPIST ASSISTANT

School of Technical Careers

(Associate in Applied Science)

Ted Okita, Program Coordinator

Telephone -618-453-2361

Wham Education Bldg., Rm. 141

Students should note application deadlines and procedures explained under admission requirements in this text. The Health Careers Council of Illinois reports that the field of physical therapy is one of the five most critical areas in which a manpower shortage exists. There are growing demands for physical therapy services in hospitals, extended care and nursing home facilities, and in private practices. The nation's concern and interest in improving our health care delivery system to the entire population should continue to provide opportunities for skilled workers in this field.

The physical therapist assistant is a skilled technician who works within the physical therapy service, which is under the direction of a physical therapist. The assistant is responsible to and supervised by the physical therapist.

A minimum of 70 credit hours is required for the associate degree.

First Year		Fall	Spring
GSA 106	Chemistry for Non-Science Majors	3	-
Zool 118	Introductory Zoology	4	-
GSA 208	Physiology Laboratory	-	1
GSA 209	Principles of Physiology	-	3
GSB 202	Introduction to Psychology	-	3
GSD 101	English Composition	3	-
GSD 152	Interpersonal Communication	-	2
PTH 100	Physical Therapy Orientation	2	-
PTH 113	Therapeutic Modalities I (8 weeks)	1.5	-
PTH 207	Massage (8 weeks)	1.5	-
PHSL 300	Human Anatomy	-	3
PTH 202	Physical Rehabilitation Techniques	-	2
PTH 204	Practicum I	-	2
		15	16
Second Year		Fall	Spring
GSA 101	Insights into Modern Communications Systems	3	-
HED 334	Standard First Aid	3	-
PE 302	Kinesiology of Normal & Pathological Conditions	2	-
Psyc 301, 303, 304 or 305	Psychology	-	3
PTH 203	Pathology	1	-
PTH 205	Physical Therapy Science	-	2
PTH 208, 209	Therapeutic Exercise I & II	3	3
PTH 213	Therapeutic Modalities II	2	-
PTH 214	Practicum II	-	3
PE 320	Physiological Bases of Human Movement	-	3
PE 325 or 326	Training Room Techniques or Emergency Care & Prevention	-	2
		14	16
		Summer	
PTH 321a,b	Clinical Internship	8	
PTH 322	Clinical Seminar	2	
		10	

Physical Therapist Assistant As A Major

The student should expect to spend approximately \$100 for uniforms and insurance.

The graduate under the supervision of the registered physical therapist will be able to administer such physical therapy techniques as: infra-red and ultra-violet light whirlpool baths, hot moist packs, diathermy, ultra-sound paraffin baths, massage, therapeutic exercise, gait training, and other activities of daily living and assist in record keeping and general physical therapy housekeeping.

In addition to the physical therapy activities, the physical therapist assistant will assist the registered physical therapist in more complex procedures such as: administering manual muscle tests, electrical muscle stimulation, and other diagnostic tests. He or she also observes, records and reports to the supervisor conditions, reactions, and responses related to his or her assigned duties.

Before graduation, the student will serve an internship of 12 weeks in two separate hospitals located away from the campus.

Representative First Job Titles: Physical Therapist Assistant.

A major in Physics may be pursued through either the College of Science or the College of Education. The program of study provides for a mastery of the basic principles of classical and quantum physics. It also provides a breadth of coverage in the applications of physics principles to neighboring fields. Because of the central position of physics among the physical sciences, the physics graduate with his analytical and instrumental skills can flexibly contribute to the solution of pressing national problems of energy supply, water resources, transportation, environmental healthfulness, security and other vital concerns. A basic knowledge of classical and quantum physics is essential for a successful entry into a very wide variety of interdisciplinary areas of science such as biophysics, geophysics, communications science, space science, environmental science, medical science, and engineering.

The program at SIUC, building upon a solid foundation of classical physics, provides a sound introduction to atomic and molecular physics with options for specializing in solid state, atmospheric, plasma, nuclear, mathematical physics and biophysics.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select) ²	3	-
GSC	Humanities (select) ²	-	3
GSD 153	Public Speaking	-	3
GSD 101	English Composition	3	-
GSE 201	Healthful Living	2	-
GSD 117, 118 or 119	Writing (select)	-	2
MATH 111	College Algebra and Trigonometry ³	5	-
MATH 150	Calculus I	-	5
PHYS 205a & 255a	University Physics and Lab ^{4,6}	-	4
GSB 212, 300, or 301	American Government or U.S. History	4 (3) 17 (16)	- 17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSB 202	Introduction to Psychology	3	-
GSC	English, Elective in Humanities (select) ²	3	-
GSC	Humanities (select) ²	-	3
GSE	Human Health and Well Being (select) ²	-	2
MATH 250	Calculus II	4	-
CHEM 224, 225	Introduction to Chemical Principles & Lab ^{4,5}	-	7
PHYS 205b, 255b	University Physics & Lab ^{4,6}	4	-
EDUC 201	Teacher's Role in Public School Education	-	1
		17	16

¹See also the program (B.S.) under the College of Science.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³Math III substitutes for GSD Mathematics.

⁴These courses count towards the GSA science requirement.

⁵These courses are for students with a year or more of high school chemistry. Those with less than a year should take Chem 115 (Introduction to General Chemistry) before Chem 224.

⁶Entering freshmen who qualify to begin with Math 110b or higher may take Phys 204a,b (College Physics-Honors) and Phys 254a,b (College Physics Laboratory-Honors) during the first year. In the fall semester of the second year they may take Phys 205c-3, an Introduction to Modern Physics with Laboratory.

Physics As A Major

The following specific General Studies courses are required for teacher certification (these courses may be completed during the freshman and sophomore years): GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics, or GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118, or 119, Expository, Technical or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

A major in Physics may be pursued through either the College of Science or the College of Education. The program of study provides for a mastery of the basic principles of classical and quantum physics. It also provides a breadth of coverages in the applications of physical principles to neighboring fields. Because of the central position of physics among the physical sciences, the physics graduate with analytical and instrumental skills can flexibly contribute to the solution of pressing national problems of energy supply, water resources, transportation, environmental healthfulness, security and other vital concerns. A basic knowledge of classical and quantum physics is essential for a successful entry into a very wide variety of interdisciplinary areas of science such as biophysics, geophysics, communications science, space science, environmental science, medical science, and engineering.

The program at SIUC, building upon a solid foundation of classical physics, provides a sound introduction to atomic molecular physics with options for specializing in solid state, atmospheric, plasma, nuclear, mathematical physics and biophysics.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select) ²	3	-
GSC	Humanities (select) ²	-	2
GSD	Speech	-	2 (3)
GSD 101	English Composition	3	-
GSE	Human Health and Well Being (select) ²	1	-
*FL	Foreign Language ^{3,4}	4	4
*MATH 111	College Algebra and Trigonometry ⁴	5	-
*MATH 150	Calculus I ⁴	-	5
*PHYS 205a	University Physics and Lab ^{3,4}	-	4
		16	17 (18)

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
BIOL	Biological Sciences (not GSA) ^{2,3,4}	3	3
GSB 211	Contemporary Economics	3	-
GSC	Humanities (select) ²	3	-
GSE	Human Health and Well Being (select) ²	-	1
*MATH 250	Calculus II	4	-
*CHEM 224, 225	Introduction to Chemical Principles and Lab ^{3,4,5}	-	7
*PHYS 205b, 255b	University Physics and Lab ^{3,4}	4	-
*PHYS 205c	University Physics	-	3
*PHYS 301	Theoretical Methods in Physics	-	2
		17	16

*Required courses for a major in Physics.

¹ See also the program (B.S.) under the College of Education.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³ Approved substitutes for General Studies.

⁴ Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

⁵ These courses are for students with a year or more of high school chemistry. Those with less than a year should take Chem 115 (Introduction to General Chemistry) before Chem 224.

Physics as a Major

At SIUC a student may elect one of several options to prepare himself or herself as a physicist. Choices exist for both the experimentally- and theoretically-oriented student. The physics major may prepare to enter the graduate school or an industrial and/or government laboratory. In addition, there is a degree option for those wishing to teach in the secondary level school system.

Representative First Job Titles: Physicist, Acoustics Physicist, Design Physicist, Electricity and Magnetism Physicist, Light Physicist, Quality Control Physicist, Research Physicist, Aerodynamics Scientist, Applied Physics Researcher, Astrophysicist, Atomic and Molecular Physicist, Biophysicist, Geophysicist, Factory Insurance Representative, Thermodynamics Physicist, Optics Physicist, Manufacturer's Representative, Mechanics Physicist, Nuclear Physicist, Plasma Physicist, Product Studies and Testing Physicist, Solid-State Physicist, Physical Metallurgy Scientist.

Physiology involves studying the functioning of organisms during life and how life processes operate. Courses include pharmacology, electron microscopy, physiological techniques, and anatomy. Although a bachelor's degree with such a major is adequate preparation for some jobs, graduate training is usually required to obtain professional recognition. Colleges and universities provide the greatest job opportunities. Government agencies are the second largest employers of physiologists.

First Year		Fall	Spring
GSB	Social Studies (select) ¹	-	3
GSC	Humanities (select) ¹	-	3
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
FL	(select) ^{2,3}	4	4
CHEM 222a,b or CHEM 224, 225	Introduction to Chemical Principles ^{2,3}	4 (7)	4 (-)
MATH 110a,b or MATH 111	College Algebra and Trigonometry ^{2,3}	3 (5)	2
		-	-
		14-19	14 (18)
Second Year		Fall	Spring
GS	Area B,C (select) ¹	2	3
BIOL	Select Two From Biology 305, 307, 308, 309 ^{2,3}	3	3
PHYS 203a,b & 253a,b	University Physics and Lab ²	4	4
CHEM 344	Organic Chemistry	4	-
CHEM 345	Lab Techniques	2	-
CHEM 346	Organic Chemistry	-	2
CHEM 347	Lab Techniques	-	3
		15	15

¹ Refer to section General Studies for the Transfer Student.

² Approved substitutes for General Studies.

³ Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

Third and Fourth Years

Students fulfill remaining General Studies requirements and select physiology courses according to professional interests and remaining departmental requirements.

Physiology As A Major

In addition to adequate equipment for all routine work, the following facilities are available to our graduate students: An RCA and a Hitachi electron microscope as well as a shadowcaster, photographic equipment, knifebreaker, and ultramicrotome; isotopic equipment including scalers and monitors; fully equipped animal room, autoclave, several varieties of analytic balances, refrigerated centrifuges; constant temperature baths and ovens; walk-in cold rooms; electrophoresis equipment; Warburg apparatus; physiographs; fraction collectors; oscilloscopes; blood gas apparatus, electrocardiograph; strength testing equipment.

Representative First Job Titles: Physiologist, Pharmacologist, Ecologist, Biological Photography Staff, Biostatistician, Biological Warfare Personnel, Aquatic Biologist, Bioastronautician, Astrobiologist, Physiological Researcher, Genetics Researcher, Manufacturer's Representative, Pathologist, Physical Anthropologist, Technical Writer, Plant Physiologist.

The Department of Plant and Soil Science includes field crop production, horticulture and soils. There are many widely varied opportunities for students with an interest in plants or soils. The program is designed to provide thorough training in both theory and practice. Although the business option is oriented toward the student interested in working in business and industry, he or she still may select courses in a wide choice of electives from throughout the School of Agriculture and the University. Opportunities for individual program development may be realized through work experience, internships, special studies, and seminars. A course of study in international agriculture can be taken if the student so desires.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
CHEM 140 A	Chemistry ¹	-	4
BOTANY 200,201	General Botany and Lab ¹	4	-
GSB 202	Introduction to Psychology	3	-
ABE 204	Introduction to Agricultural Economics ¹	-	3
GSC	Humanities (select)	3	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
GSE	Human Health and Well Being	2	2
PLSS 200	Principles of Field Crop Production	-	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	2	-
GSB	Social Studies (select)	3	-
GSC	Humanities (select)	-	3
GSD 107	Intermediate Algebra	4	-
GSD 153	Public Speaking	-	3
PLSS 220	General Horticulture	3	-
PLSS 240	Soil Science	-	4
GSA or B or C elective		-	3
ACCT 210	Accounting Principles and Control	-	3
CHEM 140b	Survey of Chemistry	4	-
		<u>16</u>	<u>16</u>

¹Substitutes for General Studies requirements.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. A total of 40 hours in agriculture is required which includes 28 hours in Plant and Soil Science, and 7 hours from two other departments in the School of Agriculture. Of the 28 required hours in Plant and Soil Science, at least 15 hours must be at the 300- and 400-level, with no less than 9 hours at the 400-level. In addition, the student must take either Marketing 304 or ABE 360, Ad Sc 301, 7 hours of business electives, and Botany 320. The student may select courses within the University for 8 hours of outside electives.

Plant And Soil Science As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with potential employers and assists students in finding internships and permanent positions. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

The Environmental Studies option is designed to familiarize the student with environmental problems relating to plants and soils. Thorough training in the solution to these problems will prepare students for interesting careers with environmental protection agencies, pollution control boards and other agencies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
BOTANY 200,201	General Botany and Lab ¹	4	-
CHEM 224, 225	Intro. to Chem. Prin. and Lab ¹	-	7
GSB 220	Survival of Man	3	-
ECON 214	Intro. to Macroeconomics ¹	-	3
GSC 221	Survival of Man	-	3
GSC	Humanities (select)	3	-
GSD 101	English Composition	3	-
GSD 118	Technical Report Writing	-	2
GSE	Human Health and Well Being (select)	2	-
		15	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 330	Weather	-	3
GSB 212	Intro. to American Government & Politics	4	-
GSC	Humanities (select)	-	3
GSD 107	Intermediate Algebra	4	-
GSD 153	Public Speaking	-	3
GSA, B or C	Elective	3	-
GSE	Human Health and Well Being (select)	2	-
AG 333	Agr. & Forestry Env. Problems	-	3
ECON 215	Introduction to Microeconomics	3	-
PLSS 220	General Horticulture	-	3
		16	15

¹Substitutes for General Studies requirements.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. The student must enroll in the following courses: Ani 455-2, Agri 401-3, and 440-3; Bot 320-4; Econ 333-3, PLSS 200-3, 240-4, 381-1, 419-3, 420-4, 441-3, 447-3, and 468-3, PolS 325-3 and 340-3; and TEE 314-4. In addition, the student may select courses within the University for 3 hours of outside electives, and 9 hours of electives in the School of Agriculture.

Environmental Studies As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with employers and assists students in finding internships and permanent positions. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

The Department of Plant and Soil Science includes field crop production, horticulture and soils. There are many widely varied opportunities for students with an interest in plants or soils. The program is designed to provide thorough training in both theory and practice. Although the general option is production oriented, the student may select elective courses from the School of Agriculture and the University. Opportunities for individual program development may be realized through work experience, internships, special studies, and seminars. A course of study in international agriculture can be taken if the student so desires.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
CHEM 140A	Chemistry ¹	-	4
BOTANY 200,201	General Botany and Lab ¹	4	-
GSB	Social Studies (select)	3	-
ABE 204	Agricultural Economics ¹	-	3
GSC	Humanities (select)	3	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
GSE	Human Health and Well Being (select)	2	2
PLSS 200	Principles of Field Crop Production	-	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	2	-
GSB	Social Studies (select)	3	-
GSC	Humanities (select)	-	3
GSD 107	Intermediate Algebra	4	-
GSD 153	Public Speaking	-	3
PLSS 220	General Horticulture	3	-
PLSS 240	Soil Science	-	4
GSA or B or C	Elective	-	3
CHEM 140b	Chemistry	4	-
PLSS elective		-	3
		<u>16</u>	<u>16</u>

¹Substitutes for General Studies requirements.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. A total of 45 hours in agriculture is required which includes 28 hours in Plant and Soil Science, 6 hours from two other departments in the School of Agriculture and Botany 320-4. Of the 28 required hours in Plant and Soil Science, at least 15 hours must be at the 300- and 400-level with no less than 9 hours at the 400-level. In addition, the student may select courses within the university for 19 hours of outside electives.

Plant And Soil Science As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with potential employers and assists in finding internships and per-manent positions. A minor is not required and there are no foreign language requirements. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

The Department of Plant and Soil Science includes in its program an option in Landscape Horticulture. The program is designed to provide thorough training in both theory and practice to prepare students for interesting careers in landscaping or gardening in parks, playgrounds, residential or industrial areas, road and street parkway improvement and maintenance, and in other public and private work to make the environment more pleasing and useful.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
CHEM 140 A	Chemistry ¹	-	4
BOTANY 200,201	General Botany and Lab ¹	4	-
GSB 202	Introduction to Psychology	3	-
ABE 204	Agricultural Economics ¹	-	3
GSC	Humanities (select)	3	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
GSE	Human Health and Well Being (select)	2	2
PLSS 220	Principles of Field Crop Production	-	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select)	-	2
GSB	Social Studies (select)	3	-
GSC	Humanities (select)	-	3
GSD 107	Intermediate Algebra	4	-
GSD 153	Public Speaking	-	3
PLSS 240	Soil Science	-	4
GSA, B, or C	Elective	3	-
AdSc 301	Management and Supervision	-	3
PLSS 200	Principles of Field Crop Production	-	3
AGEM 376	Applied Graphics	2	-
CHEM 140b	Chemistry	<u>4</u>	-
		<u>16</u>	<u>18</u>

¹ Substitutes for General Studies requirements.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. The student must enroll in the following courses: Biol 307-3, Bot 320-4, 456-4 or 457-3, Geog 470a-3, PLSS 322-3, PLSS 327-3; 328a, b-2,2; 381-1, 420-4, 428a, b-33, 432-4 or 434-3, and ZOOL 316-3. In addition, the student may select courses within the University for 4-6 hours of outside electives, and 10 hours of electives in the School of Agriculture.

Landscape Horticulture As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with employers and assists students in finding internships and permanent positions. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Landscape Gardener, Nurseryman, Garden Center Manager, Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

PLANT AND SOIL SCIENCE

(Science Option)

School of Agriculture

(Bachelor of Science)

Dr. Gerald D. Coorts, Chairperson

Telephone - 618-453-2496

Agriculture Building, Room 176

The Department of Plant and Soil Science includes field crop production, horticulture and soils. There are many widely varied opportunities for students with an interest in plants or soils. The program is designed to provide thorough training in both theory and practice. Although the science option is oriented toward the student interested in an advanced degree, he or she still may select elective courses from the School of Agriculture and the University. Opportunities for individual program development may be realized through work experience, internships, special studies, and seminars. A course of study in international agriculture can be taken if the student so desires.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 101	Insights Mod. Comm. Systems	-	3
BOTANY 200,201	General Botany and Lab ¹	4	-
CHEM 222a	Intro. to Chemical Principles ¹	4	-
ABE 204	Agricultural Economics ¹	-	3
GSC	Humanities (select)	3	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
GSE	Human Health and Well Being (select)	2	2
PLSS 200	Principles of Field Crop Production	-	3
		<u>16</u>	<u>16</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select)	3	3
GSC	Humanities (select)	3	-
MATH 110 or 111	College Algebra and Trigonometry ¹	5	-
GSA or B or C	Elective	3	-
PLSS 220	General Horticulture	3	-
PLSS 240	Soil Science	-	4
CHEM 222b	Intro. to Chemical Principles	-	4
AG electives		-	2
GSD 153	Public Speaking	-	3
		<u>17</u>	<u>16</u>

¹Substitutes for General Studies requirements.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. A total of 40 hours in agriculture is required which includes 28 hours in Plant and Soil Science, and 6 hours from two other departments in the School of Agriculture. Of the 28 required hours in Plant and Soil Science, at least 15 hours must be at the 300- and 400-level with no less than 9 hours at the 400-level. In addition, the student must take Botany 320, Chem 340 and 341 and 10 hours of courses in mathematics, physical sciences, or biological sciences. The student may select courses within the University for 7 hours of outside electives.

Plant And Soil Science As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with many universities and research laboratories and assists in placing students. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

The Department of Political Science offers an undergraduate major in the College of Liberal Arts and the College of Education. The major requires a minimum of thirty-four hours in Political Science courses. A minimum GPA of 2.0 is required. Furthermore, at least three courses must be taken at the 400 level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	-
GSB 202	Introduction to Psychology	-	3
GSB 211 ³	Contemporary Economics	-	3
GSB 212	Intro. to American Government & Politics	4	-
GSC	Humanities (select) ²	3	3
GSD 101	English Composition	3	-
GSD 117, 118			
or 119	Writing (select) ²	-	2
GSE	Human Health and Well Being ²	2	-
GSD	Mathematics (select) ²	-	4
ED 201	Teacher's Role in Public School Education	-	1
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ²	3	3
GSC	English Elective in Humanities	3	-
GSB 300 or 301	American History ³	-	3
GSB 250	Intro. Comparative Government & Politics ³	3	-
GSE 201	Healthful Living	-	2
GSD 153	Public Speaking	3	-
Elective ^{2,4}		<u>4</u>	<u>8</u>
		<u>16</u>	<u>16</u>

¹See also the program under the College of Liberal Arts.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

³Recommended but not required.

⁴Elective hours should be used in the following ways: (1) students may explore areas of interest; (2) in order to select a minor.

Political Science As A Major

The following specific General Studies courses are required for teacher certification. (These courses may be completed during the freshman and sophomore years.): GBS 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics, or GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

POLITICAL SCIENCE*
College of Liberal Arts
(Bachelor of Arts)

Dr. John Foster-- Chairperson
Telephone - 618-536-2371
Faner Building, Room 3081

The Department of Political Science offers undergraduate majors in the College of Liberal Arts and the College of Education. The major requires a minimum of thirty-four hours in five different fields. A minimum GPA of 2.0 is required. Furthermore, at least three courses must be taken at the 400 level, and at least 15 of the required 34 hours must be earned at SIUC.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	3
GSB 212	Intro. to American Government & Politics ²	-	4
GSC	Humanities (select) ¹	3	3
GSD 101 & 117			
or 118 or 119	English Composition and Writing (select) ¹	3	2
GSE	Human Health and Well Being (select) ¹	2	-
GSD	Math (select) ¹	-	4
		<u>14</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSC or FL	Humanities (select) ¹ or Foreign Language ³	3 (4)	3 (4)
GSB 270	Intro. to International Relations ⁵	-	3
GSE	Human Health and Well Being (select) ¹	-	2
GSD	Speech (select) ¹	2 (3)	-
MATH or CS	Mathematics or Computer Science ⁴	3	-
Elective ⁶		3	3
		<u>14-16</u>	<u>14-15</u>

*See also the program under the College of Education.

¹See General Studies for the Transfer Student.

²Required by the major.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵Recommended but not required.

⁶Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (refer to College of Liberal Arts section).

Political Science As A Major

The study of political science is concerned with predicting, explaining, and evaluating the political behavior, beliefs, laws, and organizational arrangements of people in a variety of settings.

A major in Political Science provides rigorous social science training. A variety of courses afford a student an opportunity to study individual and group behavior; political, administrative, and judicial processes; comparative national and subnational governmental systems; intergovernmental relations and conflict resolutions; and normative and empirical political theory. Students interested in the public sector will find discussions of such topics as voting behavior, American foreign policy, and the decisions and opinions of Supreme Court justices to be challenging experiences. The department offers a full range of coursework taught by specialists in each subfield. The department has also developed a significant visibility for its research contributions over the past few years.

Students are encouraged to pursue a diversified curriculum. Those interested in foreign affairs should stress a foreign language. The political science student should be aware that mathematics and statistics are increasingly important in the study of the social sciences, including political science. The ability to write lucid English prose is also essential. Students considering concentrating in political science should seek advice about planning their college programs from the department of political science faculty.

Representative First Job Titles: American Government Studies Officer, Sales Agent, Censoring Officer, Community Relations Officer, Comparative Gov't Studies Officer, Constitutional Legal Aide, Probation and Parole Office, Customs Port Investigator, Foreign Aide Studies Officer, Gov't Policy Position Analyst, Labor Relations Officer, Manpower Planning Officer, Manpower Resources Studies Officer, FBI Agent, Operations Research Analyst, Legislative Aide, Political Systems Researcher, Political Theory & Philosophy Studies Officer, Budget Analyst, Public Opinion Polls Officer, Public Relations Officer, Claims Authorizer, Systems Evaluator, Import Analyst.

The SIUC pre-dental program meets the general requirements of all United States dental schools. It is designed by the Pre-dental Advisory Committee to prepare students for taking the Dental Admission Test not later than spring of the junior year. The Committee and the Health Professions Information Office are available to offer information and guidance to pre-dental students and to assist in the process of application by furnishing a composite evaluation of each applicant to the dental schools to which he or she applies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select)	3	3
GSC	Humanities	-	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
GSE	Human Health and Well Being	2	1-2
MATH 110a, b	College Algebra and Trigonometry	3	2
ZOOL 118, 220b ¹	Intro. Zoology & Vertebrate Zoology	4	4
		<u>15</u>	<u>15-16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology	3	-
GSD 152 or 153	Interpersonal Communication or Public Speaking	2-3	-
CHEM 222a, b ²	Introduction to Chemical Principles	4	4
PHYS 203a, b	College Physics	3	3
PHYS 253a, b	College Physics Laboratory	1	1
GSC	Humanities (select)	3	3
ENG 290 ³	Intermediate Expository Writing or other	-	3
		<u>16-17</u>	<u>14</u>

¹Community college students may substitute general biology if the course is intended for science majors.

²Students lacking high school chemistry must begin with Chem 115. Chemistry majors or students hoping to enter dental school with only three years of college should plan to complete inorganic and organic chemistry during their first two years. Generally, there is some advantage to finishing pre-dental chemistry requirements at a four-year college.

³Dental applicants must have 6 hours credit in courses taught by the Department of English in writing or literature courses; speech does not substitute.

Third and Fourth Years

If all requirements are completed, students may take the Dental Admission Test in spring of their sophomore or fall of their junior years and apply for entry after three years of undergraduate preparation. Most students, however, are admitted to dental schools after four or more years of preparation. Students may choose any major and must complete the departmental, college and University requirements for a degree. No preference among possible majors is given by the professional schools. In addition to required courses, it is recommended that the student choose from among the following courses, as his or her time permits: genetics, cellular biology, embryology, developmental biology, comparative anatomy, microbiology, biochemistry, psychobiology, personality or social psychology. Additional mathematics, statistics, humanities and social sciences will also be helpful.

Dentistry As A Career

Professional training requires four years in the dental school. Specialties beyond general practice require further training. Dentistry is becoming increasingly involved in interdisciplinary practice, focusing on the medical and social aspects of dental health, stressing preventive dental care, and becoming involved in community health care delivery as well as the traditional private practice.

The Association of American Law Schools and the Southern Illinois University School of Law follow the policy that the effectiveness of prelegal study cannot be advanced by prescribing courses of study or extracurricular activities. Instead, primary emphasis is directed toward the development in pre-law students of basic skills and insights through education for comprehension and expression in words, for critical understanding of the human institutions and values with which law deals, and for creative power in thinking. This is best achieved in fields of individual interests and abilities. Subjects which provide stimulating training for one person may do very little to arouse and sharpen the intellect of another. In addition, law touches so many phases of human activity that there is scarcely a subject which is not of value to the law student and to the lawyer. A student is therefore advised to place as much emphasis on the liberal arts as his or her own program of undergraduate study will permit; and within the outlines of that program the following should also be noted:

The essential ability to think precisely and exactly is most likely to be acquired through courses in logic, mathematics, philosophy, and the natural sciences.

Courses in English composition and public speaking develop the power of clear and well-ordered expression. Preparation in composition is essential and preparation in public speaking is of great value.

The fields of history (particularly English and American history), political science, psychology, economics, and sociology are important to an appreciation of human institutions and values and their relation to law.

An understanding of financial statements and of elementary accounting principles has become almost indispensable.

There are opportunities in special types of practice for those who concentrate in particular fields, such as engineering, business administration, chemistry, physics, or agriculture before entering law school.

*Refer to the section General Studies for the Transfer Student to determine what courses may be taken to satisfy the University's general education requirements.

Pre-Law

Pre-Law is not a major in that students cannot receive a degree in Pre-Law. Since most law schools now require applicants to possess a bachelor's degree, students are advised to select a major in the academic unit where they would like to obtain a degree.

PRE-MEDICINE AND PRE-OSTEOPATHYPre-professional
(Select Academic Unit)Patricia Sims
Health Professions Information Office
Telephone - 618-536-2147
Neckers A-189

At SIUC the pre-medical program is guided by the Pre-medical Advisory Committee. Through the Health Professions Information Office students are able to find information concerning professional schools and their requirements, curriculum guidance, and assistance with the procedures involved in applying to medical or osteopathic medical schools. The curriculum meets the general requirements of all United States medical schools and is designed to provide students with a strong course background on which to base their medical education.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select)	3	3
GSC	Humanities (select)	-	3
GSD 101	English Composition	3	-
GSD 117 or 118	Expository or Technical Report Writing	-	2
GSD 112	Statistics (or select from math recommendations)	-	2
GSE	Human Health and Well-Being (select)	1	1
MATH 111	College Algebra-Trigonometry	5	-
ZOOL 118,220b ¹	Intro Zoology & Vertebrate Zoology	4 16	4 15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology	3	-
GSC	Humanities (select)	3	-
GSD 152 or 153	Interpersonal Communication or Public Speaking	2-3	-
CHEM 222a,b ²	Introduction to Chemical Principles	4	4
ENG 290	Intermediate Expository Writing	-	3
Electives ³		4 16-17	9 16

¹ Community college students may substitute a year of general biology if the course is intended for science majors.

² Students lacking high school chemistry must take Chem 115 prior to Chem 222.

³ Community college students are encouraged to complete foreign language and associate degree requirements before transferring. Taking the additional pre-medical sciences at a four-year college is preferred.

Third and Fourth Years

Pre-medical students must complete organic chemistry and a year of physics in the third year in order to take the Medical College Admission Test in the spring of that year. Application procedures require a year.

Pre-medical students may choose any major in which to earn the bachelor's degree. Requirements of that degree, of the college in which it is granted, and of the University must be met at the same time that pre-medical requirements are taken. If a science major is chosen, there will be considerable overlapping of requirements. Additional courses recommended for pre-medical preparation include genetics, cellular biology, embryology or developmental biology, comparative anatomy, microbiology, biochemistry, psychobiology, additional mathematics, and social sciences. If the major chosen is in the College of Science, a year of foreign language will be required.

Medicine As A Career

Medical training will require another four academic years, plus residency. Admission to medical schools is extremely competitive. Students can help themselves by making realistic appraisals of their interests and abilities, by planning ahead to meet all requirements and time schedules, and by keeping themselves informed of admission requirements and procedures. They will receive help through the Health Professions Information Office and Pre-medical Advisory Committee.

Medicine today offers both promise and challenge, whether students are interested in becoming primary physicians, physician specialists or medical scientists. Prevention as well as cure, and the extension of health care to all of society have become important goals in the preparation of physicians.

The flexibility with which the pre-medical students at SIUC may approach their total undergraduate preparation as well as the quality of the pre-medical requirements make it possible for students to achieve an excellent pre-medical preparation.

PRE-NURSING
Pre-professional
(Pre-major Advisement)
General Academic Programs

Billie Jacobini
Pre-major Advisement Center
Telephone - 618-453-4351
Woody Hall, Wing C, Room 117
or
Mary Goss
Pre-major Advisement Center
Telephone - 618-453-4351
Woody Hall, Wing C, Room 117

The baccalaureate degree in nursing is offered at Southern Illinois University at Edwardsville. Students may complete selected General Studies and nursing prerequisites at Carbondale during their first three semesters and apply for admission to the School of Nursing at SIU-Edwardsville for the remainder of the baccalaureate program.

The total program is designed for those who wish to become registered nurses or registered nurses who wish: (1) to strengthen their scientific basis for nursing practice, (2) to broaden and deepen their general educational and cultural background, and (3) to obtain a baccalaureate degree to qualify for further study on the graduate level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 104	The Human Experience - Anthropology	3	-
GSC 104	Moral Decision	-	3
GSD 101	English Composition	3	-
GSD 117	Expository Writing	-	2
GSD 107	Intermediate Algebra	4	-
GSD 152 or 153	Interpersonal Communications or Public Speaking	2 (3)	-
Chem 140a,b	Chemistry (inorganic, organic, and biochemistry)	4	4
Phsl 301	Survey of Human Anatomy	-	4
GSB 202	Introduction to Psychology	-	3
		<u>16 (17)</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
Psyc 305	Psychology of Personality	3	-
Micro 301	Principles of Microbiology	4	-
GSB 203	The Sociological Perspective	4	-
GSC	Select	3	6
Hed 311	Human Growth and Development	3	-
GSA 208, 209	Principles of Physiology & Lab	-	4
GSC 208	Elementary Logic	-	3
SOC 340	Family	-	4
		<u>17</u>	<u>17</u>

As soon as possible after advisement for the Fall Semester, freshman year, the student should see Mrs. Goss, Nursing Advisor, to initiate application to the School of Nursing at SIUE. Deadline date is at least three quarters prior to the quarter the student is applying for. After 3 semesters at SIUC, it takes at least 8 quarters to complete the baccalaureate nursing program at Edwardsville.

A grade of "C" or above is required in all Nursing courses, all science courses and nursing prerequisites. Students with an overall 2.5 grade point average (on a 4-point scale) will be considered admissible up to the limit of available space.

Constitution requirement is still in force at Edwardsville.

Students who take GSB 104, GSB 202, and GSB 203 will be considered as having fulfilled the Social Studies requirements for the General Studies program at SIUE.

Various optometry schools require a minimum of sixty or ninety semester hours of college courses before students can be admitted. However, most of the students admitted in recent years hold a baccalaureate degree. In view of this fact, community college students will be better prepared by fulfilling requirements for an AA degree and postponing some math and science requirements until the third and fourth years.

<u>First Year</u> ¹		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select)	-	3
GSC	Humanities (select)	3	-
GSD 101	English Composition	3	-
GSD 117,118or119	Writing (select)	-	2
CHEM 222a,b ²	Introduction to Chemical Principles	4	4
MATH 110a,b	College Algebra and Trigonometry	3	2
ZOOL 118,220b ³	Intro. Zoology & Vertebrate Zoology	4	4
		<u>17</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology	3	-
CHEM 340, 341 ⁴	Survey of Organic Chemistry & Lab	6	-
GSD or Math ⁵	Statistics	2-3	-
PHYS 203a,b	College Physics	3	3
PHYS 253a,b	College Physics Laboratory	1	1
PSYCH	(select) (Child Psychology recommended)	-	3
Math 150	Calculus I (with analytic geometry)	-	4
Micr 301	Principles of Microbiology	-	4
		<u>15-16</u>	<u>15</u>

¹ See information above concerning course selection.

² Students lacking high school chemistry must begin with Chem 115.

³ Community college students may substitute general biology if it is a course for science majors and if it includes 3-4 hours per week in laboratory.

⁴ Students working toward a science degree must take the organic chemistry course required by that major.

⁵ Any statistics course taught by business, mathematics, or psychology departments is acceptable. A three hour course is required by some schools.

Third and Fourth Years

No degree is given in pre-optometry. Students may choose any major at SIUC, but additional science and mathematics courses may enhance probabilities of being accepted by the optometry school. If students are accepted prior to earning a bachelor's degree, they have the option of acquiring that degree by taking certain extra requirements of the professional school or of bypassing the bachelor's degree and earning the doctor of optometry (O.D.) degree only.

On request, the Pre-medical Advisory Committee will evaluate optometry candidates and forward composite recommendations supporting their applications to optometry schools. Details of this procedure and other relevant information are available from the Health Professions Information Office.

Optometry As A Career

Optometry training requires four years in an accredited professional school. The candidates then take a licensing examination.

Career opportunities exist in individual or group practice, in hospitals or eye clinics, in public health agencies, in industrial health programs, and in consultant services to other professions, such as educators in remedial reading, illuminating engineers, or highway safety planners. It is estimated that 20,000 newly trained optometrists will be needed by 1990.

Students can achieve excellent preparation for pharmacy school by taking their first year at SIUC, and applying for admission to a pharmacy school in the second (first professional) year of the five year program. Admission to the pharmacy school becomes more difficult when the student is seeking admission as a third year student. The guide below includes courses required for transfer to St. Louis College of Pharmacy or University of Illinois College of Pharmacy. Students should be in direct contact with preferred professional schools for current information.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 203 ¹	The Sociological Perspective	-	4
GSC ¹	Literature course (select)	-	3
GSD 101	English Composition	3	-
GSD 117 or 118 ²	Expository or Technical Report Writing	-	2
CHEM 222a,b	Introduction to Chemical Principles	4	4
ZOOL 118 ³	Introductory Zoology	-	4
BOT 200 and 201 ³	General Botany and Lab	4	-
MATH 111	College Algebra and Trigonometry	5	-
		<u>16</u>	<u>17</u>

(Students who wish to apply to both pharmacy schools may need to enroll in additional courses during the summer term to avoid overloads during regular semesters.)

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212 ¹	Intro. to American Government and Politics	-	4
GSB 202	Introduction to Psychology	-	3
CHEM 344, 346	Organic Chemistry	4	2
CHEM 345, 347	Laboratory Techniques	2	3
PHYS 203a,b	College Physics	3	3
PHYS 253a,b	College Physics Laboratory	1	1
MATH 140 ² or	Short Course in Calculus or	4	-
MATH 282 ¹	Introduction to Statistics	(3)	
PHSL 301 ²	Human Anatomy (with lab)	-	4
MICR 301 ¹	Principles of Microbiology	4	-
		<u>18 (17)</u>	<u>19</u>

¹Requirement of St. Louis.

²Requirement of University of Illinois.

³Substitute 8 hours of general biology with laboratory, if available, for zoology and botany courses. NOTE: If pre-pharmacy students plan to spend a second year at SIUC, they must be in touch with a pharmacy school to ascertain current requirements and admission procedures. In addition, the students will probably be required to attend a summer session at the professional school to pick up specialized courses normally taught there in the second year. Information concerning other pharmacy schools is available from the Health Professions Information Office.

Third, Fourth and Fifth Years

Students must spend a minimum of three years in the professional school. The degree earned is a Bachelor of Science in Pharmacy. Most states require twelve months of practical experience under the supervision of a registered pharmacist before granting a license. Some of this experience may be accumulated during summer vacations.

Pharmacy As A Career

Students with an aptitude for science and interest in the pharmaceutical field will find that pharmacy offers a variety of careers. The pharmacist may practice in a retail business, in a hospital or clinic or in public health facilities. In industrial pharmacy there are opportunities in research, manufacturing, quality control, administration and sales. Graduate programs are available for pharmacists who seek advancement to careers requiring a master's or doctoral degree.

PRE-PHYSICAL THERAPY

Pre-Professional
(select academic unit)

Patricia Sims
Health Professions Information Office
Telephone - 618-536-2147
Neckers A-189

SIUC offers courses to meet the requirements of any physical therapy school. The curriculum suggested below includes minimum requirements of all four Illinois professional schools so that students may apply to more than one school. Admission is extremely competitive. Applicants should have some knowledge about physical therapy and some experience in patient care. Applications must be made nine months to a year in advance of the beginning date at the professional schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology	-	3
GSC	Humanities (select)	3	-
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Select from Expository, Technical, or Creative Writing	-	2
GSE	Health and Physical Development (select)	1	1
CHEM 222a,b	Introduction to Chemical Principles	4	4
MATH 110a,b	Algebra-Trigonometry	3	2
ZOOL 118	Introduction to Zoology	-	4
		<u>14</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 208, 209 or PHSL 210	Principles of Physiology	4 (5)	-
GSB 203	Sociological Perspective	-	4
GSC	Humanities (select)	-	3
GSD 152 or 153	Interpersonal Communication or Public Speaking	2 (3)	-
PHYS 203a,b	College Physics	3	3
PHYS 253a,b	College Physics Laboratory	1	1
PSYCH 301	Child Psychology	3	-
PSYCH 305	Personality Psychology	3	-
PSYCH 431	Psychopathology	-	3
ZOOL 220b	Diversity of Animal Life (Vert.)	-	4
		<u>16 (18)</u>	<u>18</u>

Also required: current certification in cardiopulmonary resuscitation (CPR) and in first aid.

Recommended electives include Anatomy (PHSL 301), Kinesiology (PE 302 or 303), Psychobiology (GSA 302), Psychology of Maturity and Old Age (PSYC 304), sports or skill oriented physical education courses, additional social science courses. Students may prefer to attend summer or spread pre-physical therapy course work through more than two years.

Third and Fourth Years

Students who complete training at Northwestern University will remain at SIUC for a third year as admission there requires a minimum of 90 semester hours. During the third year students should work toward requirements for a degree in an SIUC program inasmuch as they will not know whether their applications are successful until late in the year. If admitted, the professional training at Northwestern is completed in 16 consecutive months.

Students who complete training in any of the other three Illinois PT programs will spend two academic years in the professional school. Admission requires a minimum of 60 semester hours plus physical education hours. A baccalaureate degree in physical therapy is awarded by the professional schools.

STUDENTS WHO DECIDE TO REMAIN AT SIUC FOR A BACCALAUREATE DEGREE MUST CONSULT AN ACADEMIC ADVISOR IMMEDIATELY AND PLAN A CURRICULUM LEADING TO A DEGREE IN AN APPROVED PROGRAM. The pre-physical therapy curriculum does not lead to any SIUC degree nor does it guarantee admission into a professional school.

PRE-VETERINARY MEDICINE

Pre-professional
(Select Academic Unit)

Patricia Sims, Advisor
Health Professions Information Office
Telephone - 618-536-2147
Neckers A-189

This curriculum is based on the requirements for application to University of Illinois College of Veterinary Medicine. Although students may apply to professional school after two years undergraduate preparation, most accepted students have completed a degree. Students may choose to spread the required pre-veterinary sciences through a third year. If a degree is to be completed, a major may be chosen in either the School of Agriculture or the College of Science.

First Year

		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select)	-	3
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Writing (select)	-	2
GSE	Human Health and Well Being (select)	1	1
Bot 200, 201 ¹	General Botany and Laboratory	-	4
Math 110a,b	College Algebra and Trigonometry	3	2
Zool 118 ¹	Introductory Zoology	4	-
GSC	Humanities (select)	-	3
ANI 121	Science of Animals	3	-
ANI 122	Production and Processing Practices	1	-
		15	15

Second Year

		<u>Fall</u>	<u>Spring</u>
GSD 152 or 153	Interpersonal Communication or Public Speaking	2 (3)	-
GSB	Social Studies (select)	3	3
GSC	Humanities (select)	3	-
GSE	Human Health and Well Being	1	1
Phys 203a,b	College Physics	3	3
Phys 253a,b	College Physics Laboratory	1	1
Biol 305	Genetics-Classical and Molecular	-	3
Chem 222a,b	Introduction to Chemical Principles	4	4
		17-18	15

¹Community college students should substitute general biology if available for zoology and botany listed. Eight hours of biological sciences (with laboratory experience) suitable for science majors is required.

Third and Fourth Years

Students must complete organic chemistry and biochemistry. In addition to required pre-veterinary courses, there are recommended courses from which the student may choose in accordance with his or her available time. These include Horses, Animal Nutrition, Behavioral Manipulation of Animals, Vertebrate Zoology, Comparative Anatomy, Genetics, Cell Physiology, Environmental Biology, and Organismic Functional Biology.

No degree is given in pre-veterinary studies. Students should choose an academic major in a science or in animal industries and complete its requirements simultaneously with the admission requirements of the veterinary school. Admission is extremely competitive and is usually granted to students with much more than minimum preparation. Most first year veterinary students have four or more years of pre-veterinary education.

Veterinary Medicine As A Career

After acceptance into the professional school, completion of training in veterinary medicine requires four years. Illinois residents are effectively limited to applying to the University of Illinois because other veterinary schools accept residents of their own states or of states having no veterinary school. Competition for available spaces in the professional schools exceeds that for human medical training. With the diversity of offerings at SIUC, however, the pre-veterinary students have an opportunity to develop related or alternate interests at the same time that they are preparing themselves to apply to the veterinary school.

Professional veterinarians have a wide variety of career choices. They may choose small animal practice, livestock disease prevention and control, meat inspection, control of diseases transmitted from animal to man, supervision of interstate movement of animals, or research in animal disease or in drugs used in animal care.

The psychology major consists of ten psychology courses including GSB 202 for a total of 31-33 hours. Finite mathematics is also required. See the Undergraduate Catalog for the specific psychology requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	-	3
GSC	Humanities (select) ¹	-	3
GSD 101	English Composition	3	-
GSD 117, 118 or 119	Writing (select) ¹	-	2
GSD 107	Intermediate Algebra	4	-
GSE	Human Health and Well Being (select) ¹	2	2
Math 139	Finite Mathematics ²	-	3
Elective ³		3	3
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB 202	Introduction to Psychology	3	-
GSB	Social Science (select) ¹	-	3
GSC or FL	Humanities (select) ¹ or Foreign Language ⁴	3(4)	3(4)
GSD	Speech (select) ¹	2(3)	-
Psyc	Psychology Elective	-	3
Elective ³		3	6
		<u>14(16)</u>	<u>15(16)</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Besides being a required course for a major in Psychology, Math 139 may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later. (See College of Liberal Arts section).

³Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

Psychology As A Major

The major program serves three main classes of students: 1) those who wish an interesting major but who plan no postgraduate academic work, 2) those who plan non-psychology graduate work for which an undergraduate major may be useful (e.g., medical school, social welfare, rehabilitation counseling), and 3) those preparing for graduate work in psychology. As a consequence, the program is aimed at providing broad general education rather than training in specialized psychological skills.

Representative First Job Titles: Alcoholism & Drug Addiction Researcher, Child Behavior Studies Psychologist, Child Placement Studies Psychologist, Child Care Worker, Group Interaction Studies Technician, Group Supervisor or Facilitator, Sales Agent, Mental Deficiency Studies Psychologist, Morale Studies Psychologist (Assistant), Senior Citizens Center (Director), Urban Development (Investigator), Prisoner Classification Interviewer, Probation & Parole Incharge, Public Information Personnel, Public Opinion Polls Officer, Public Relations Personnel, Rehabilitation & Resettlement Personnel, Claims Authorizer, Social Insurance Researcher, Production Supervision, Drug Abuse Counselor, Population Studies Psychologist, Mental Health Clinic Technician.

RADIO-TELEVISION

College of Communications and
Fine Arts
(Bachelor of Science)

Dr. Sam Swan, Chairperson
Telephone - 618-453-4343
Communications Building, Rm 1056

A major in Radio-Television may be pursued through the College of Communications and Fine Arts. Such a program leads to the Bachelor of Science degree. The program is designed to prepare students for leadership positions in the broadcasting industry or in related fields. As a part of the educational experience, students are encouraged to gain actual experience in any phase of broadcasting at the University-operated stations or local stations. Student are encouraged to focus their studies in one of three specializations: 1) Broadcast News, 2) Broadcast Production, or 3) Broadcast Sales and Management.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA 101	Conceptual Insights into Modern Communication Systems	3	-
GSA	Science (select) ¹	-	3
GSB	Mass Communication and Society	3	-
GSB	Social Studies (select) ¹	-	3
GSC	Humanities (select) ¹	3	3
*GSD 101, and 117 or 119	English Composition ² & Expository or Creative Writing ²	3	2
GSD 152	Interpersonal Communication	2	-
GSD 153	Public Speaking	-	3
GSE	Human Health and Well Being (select) ¹	2	1
		16	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Studies (select) ¹	-	3
GSC	Humanities (select) ¹	3	-
GSD 107, or 110 or 112	Intermediate Algebra or Statistics	-	2-4
GSE	Human Health and Well Being (select) ¹	1	-
*R&T 300m	Intro. to Broadcast Writing, Performance, and Production ³	4	-
*R&T 300p	History and Foundations of Broadcasting ³	-	4
Elective	Advanced Courses beyond GS level	4	6
		15	15-17

*Required courses for a major in Radio-Television.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Each student in Radio and Television must complete GSD 101 and 117 or 119 with a grade of "B" by the end of his or her sophomore year, or a grade of "C" in English 290 (Advanced Composition) in order to take advanced courses in Radio-Television.

³Radio-Television 300m and 300p are required of all majors and must each be passed with a grade of "C" or better before students may take advanced courses in the department.

Radio-Television as A Major

A minor of 15 hours is required of all students in Radio-Television. The minor should include courses in a single discipline outside the department and include courses beyond the GS level. Students should consult with their academic advisor for specific recommendations.

The Department of Radio-Television uses direct advisement of all new transfer, and continuing students.

The major in Radio-Television consists of 32 hours minimum in Radio-TV coursework. Of those, 17 hours are required of all major: RT 300M, RT 300P, RT 308, RT 340, and RT 393. In addition, students are expected to develop a specialization in a single area by taking three or four concentrated courses in either News, Production, or Management.

Representative First Job Titles: Producer, Director, Sales Representative, News Writer, Copywriter, News Reporter, Newscaster, Announcers, Program Director, Sales Manager, Researcher, Community Affairs Director.

Radiography is an allied health specialty concerned with the production of x-ray films which enable the physician to diagnose disease processes occurring in the human body. The course of study involves mastering the ability to control radiation production and the ability to position the body properly in order to obtain radiographs of the required anatomical structure.

The curriculum is designed to prepare students to become registered radiologic technologists. Completion of the course provides graduates with the educational requirements necessary to take the national certification examination administered by the American Registry of Radiologic Technologists.

To be accepted into the radiologic technology degree program the student must have completed the requirements for the Allied Health Careers Specialties program. These advanced radiologic technology courses combine classroom and clinical education, which upon completion allows the graduate to become registry eligible and to receive an Associate in Applied Science degree in Radiologic Technology.

The courses can be completed in two summer sessions and two regular semesters. The summer sessions and the regular semester sessions will utilize both classroom and clinical education learning experiences, along with elective courses.

Requirements for Major in Respiratory Therapy

Completion of Allied Health Careers Specialties degree program	65
Radiologic Technology Advanced Courses (AHC designated)	30
Electives	<u>6</u>
	88

SEE ALLIED HEALTH CAREERS SPECIALTIES

RECREATION

(Park and Community Recreation)
(Therapeutic Recreation)
(Outdoor Recreation)
(Commercial Recreation Management)
College of Education
(Bachelor of Science)

Dr. William O'Brien, Chairperson
Telephone - 618-453-4331
College View Dorm, 408 W. Mill, Room 21

M. Frances Giles, Coordinator
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

The Department of Recreation prepares the student for positions in the management of leisure time pursuits.

The curriculum emphasizes the practical as well as the theoretical aspects of recreation by offering practicums, supervised field experiences, and internships in various recreation settings throughout Illinois and the nation.

<u>First Year</u>	<u>Fall</u>	<u>Spring</u>
*GSA 312	Conservation of Natural Resources	- 3
GSA	Science (select) ^{1,3}	3 -
*GSB 203	The Sociological Perspective	4 -
GSB 202	Introduction to Psychology	- 3
GSC	Humanities (select) ¹	3 3
GSD 101	English Composition	3 -
GSD 117, 118,		
or 119	Writing (select) ¹	- 2
GSE	Human Health and Well Being (select) ¹	1 1
**REC 300	Introduction to Leisure and Recreation	3 -
**REC 302	Recreation Program Leadership	- 3
	<u>17</u>	<u>15</u>
<u>Second Year</u>	<u>Fall</u>	<u>Spring</u>
*GSA 240	Ecology	3 -
*GSA 303	Ferns, Trees and Wildflowers	- 3
*GSB 321	Socialization of the Individual	3 -
GSC	Humanities (select) ¹ (additional English required)	3 -
*GSD 110	Economic and Business Statistics ²	2 -
GSD	Math (select) ¹	4 -
GSD 152 or 153	Interpersonal Communication or Public Speaking	- 2 (3)
GSE	Human Health and Well Being (select) ¹	1 1
**REC 305	Recreation Programming and Leadership	- 3
**HED 334	Standard First Aid	- 2
REC	Elective	- 3
	<u>16</u>	<u>14 (15)</u>

¹Refer to section General Studies for the Transfer Student. See also the Undergraduate Catalog for specific departmental requirements.

²Students must take GSD 110 or Sociology 308: Statistics for Social Science.

³Therapeutic Recreation specialization requires GSA 209, Principles of Physiology.

*Recommended, not required.

**Departmental requirements.

Recreation As A Major

Each student is expected to choose courses which will give a broad background in recreational activities and skills.

Students concentrating in recreation are encouraged to obtain the following certificates: American Red Cross Life Saving and Water Certificate, American Camping Association Campcraft Certificate, workshop certificates in recreation sponsored by the state and national recreation and park associations, and other certificates in instructional areas are desirable in preparation for positions in recreation management.

Representative First Job Titles: State Social Service Career Trainee, State Recreation Worker, Recreation Specialist, Activity Director, Recreation Supervisor, Operations Manager, Field Instructor, Program Director, Recreational Therapist.

Religious studies is an interdisciplinary field concerned with the nature of religious belief and action. Courses are offered on various traditions, including Primitive, Eastern, and Western. The emphasis is on understanding the role of religion in modern life. The Religious Studies Department does not promote any one religion; rather it provides neutral territory in which to pursue a critical and sympathetic study of religion.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	3
GSC or FL	Humanities (select) ¹ or Foreign Language ²	3 (4)3 (4)	
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ¹	2	2
		14-15	14-15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
GSC 216	Types of Eastern Religion ³	3	-
GSC 217	Types of Western Religion ³	-	3
GSC	Humanities (select) ¹	-	3
GSD	Speech (select) ¹	2 (3)	-
Math or CS	Mathematics or Computer Science ⁴	-	3
Elective ⁵		4	3
		15 (16)	15

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead. Greek or Hebrew is recommended.

³Either or both these courses may be taken in the freshman year. They are introductory but not required by the major.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

Religious Studies As A Major

The primary prerequisite for a major in Religious Studies is not any one course, but rather, an open minded interest in the academic study of religion. To discover whether such interest exists, a student is advised (a) to take either GSC 216 or 217 or both, plus one elective before the end of the Sophomore year; and (b) to confer with the Director of Undergraduate Studies, Faner 3042. In some instances, the department permits a student to receive major credit for courses taken in departments other than Religious Studies.

Representative First Job Titles: Director of Religious Education, Program Director, Editor, Counselor, Journalist.

Respiratory therapy is an allied health specialty concerned with the treatment, management, control, and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical gases and administering apparatus, environmental control systems, medications, ventilatory control and breathing exercises, cardiopulmonary resuscitation, and measures and maintenance on natural, artificial, and mechanical airways.

The respiratory therapy curriculum is designed to prepare students to become registered respiratory therapists. Completion of the course provides graduates with the educational requirements necessary to take the national registry examination administered by the National Board of Respiratory Therapy.

To be accepted into the respiratory therapy degree program the student must have completed the requirements for the Allied Health Careers Specialties program. These advanced respiratory therapy courses combine classroom and clinical education, which upon completion allows the graduate to become registry eligible and to receive an Associate in Applied Science degree in Respiratory Therapy.

The courses can be completed in one summer session and one regular semester. The summer session will involve a clinical rotation in health facilities that specialize in advanced respiratory therapy care procedures, while the regular semester will utilize both classroom and clinical education learning experience.

Requirements for Major in Respiratory Therapy

Completion of Allied Health Careers Specialties degree program	65
Respiratory Therapy Advanced Courses	23
(AHC designated)	88

SEE ALLIED HEALTH CAREERS SPECIALTIES

Programs of study in foreign languages leading to the Bachelor of Arts degree (with or without teacher certification) are offered in Classics, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree for students who have a professional or occupational interest in Asia. Students wishing to work towards this major are encouraged to take an Asian language.

Students majoring in a foreign language usually begin at the second or third level. The student who has taken two years of one foreign language in high school (or equivalent) may earn proficiency credit through taking a proficiency exam in French, German, Latin, Spanish at the Testing Center, or in Chinese, Greek, Japanese, Russian, at the Foreign Languages and Literatures Department. For additional credit, students with more than two years are encouraged to take a validating course. Students with four years in one foreign language at the high school level are encouraged to continue with that language. Since proficiency credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment and career possibilities that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas where language proficiency is a supporting factor, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
RUSS 136a,b	Elementary Russian ²	4	4
GSE	Human Health and Well Being (select) ¹	2	-
GSD	Math (select) ¹	-	4
		<hr/> 15	<hr/> 16

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	-	3
GSC	Humanities (select) ¹	3	-
GSD	Speech (select) ¹	2(3)	-
Russ 201a,b	Intermediate Russian ³	4	4
GSE	Human Health and Well Being (select) ²	2	-
Math or CS	Mathematics or Computer Science ⁴	-	3
Elective		-	3
		<hr/> 14-15	<hr/> 16

*See also Foreign Language Education under the College of Education.

¹See General Studies for the Transfer Student.

²The first year of Russian does not count toward the major.

³Required by major. Students with more than one year of high school Russian should take at least one substantial course in the Russian major each semester.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirements for students beginning college anywhere Fall 1978 or later.

Russian As A Major

A major in Russian consists of 36 semester hours in courses above the 100 level with a minimum of 12 hours on the 300 level, 12 hours on the 400 level including at least one literature course, and 4 hours of 300 or 400 level Russian electives. FL 436, Methods in Teaching Modern Foreign Languages, is required if the student wishes to be certified to teach. A minor in Russian consists of 18 semester hours in courses above the 100 level. Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

SECRETARIAL AND OFFICE SPECIALTIES

School of Technical Careers
(Associate in Applied Science)

Barbara Morgan
Acting Program Coordinator
Telephone - 618-536-6682
STC Building, Room 106

The business world offers many opportunities for secretarial and office personnel with special interest and intense training in specific areas. Both men and women find this a rewarding career field.

Students in this program are not forced into a mold. They may prepare for the position they want in the field that interests them by creating an individualized program of study. They will gain shorthand and typing proficiency and other office skills through a core of basic courses, and may then draw from a variety of allied health, technical, and business programs to specialize.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	3	-
GSD 153	Public Speaking	-	2
or STC 153b	or Conference Methods		
STC 101	Business Correspondence	-	2
or VES 302	or Communication in Business		
Scr 101a,b,c,d	Keyboarding	5	5
Scr 102a,b,c,d	Gregg Shorthand		
or			
Scr 103a,b,c,d	Machine Shorthand	5	5
Scr 104	Machine Transcription	-	3.5
STC 120	Fiscal Aspects of Technical Careers I	-	3
Scr 106	Reprographics	1	-
Scr 107	Filing & Records Management	2	-
Scr 109	Calculating Numerical Information	3	-
Scr 208	Applied Law for Technical Careers	3	-
		<u>22</u>	<u>20.5</u>

Second Year

A recommended program is stated for students in the following specialties: Administrative Assistant, Allied Health/Medical Secretary, Government/Legal Secretary, and Word Processing. The student may choose any other specialty, and a special program will be developed for the student.

Court and conference reporting is offered as a specialized associate degree program. Students combine classroom instruction with actual courtroom experience in the company of an official reporter to qualify to pass the National Shorthand Reporters Association test.

Secretarial And Office Specialties As A Major

Students are required to purchase all of their supplies such as typing paper, shorthand paper, carbon paper, etc. They are also required to purchase blank, high quality cassette tapes. Over a two year period this would amount to \$20 to \$60. Students enrolled in court reporting are required to purchase a shorthand machine at the end of their first year for an approximate cost of \$300.

A minimum of 67 hours credit is required for the associate degree.

Proficiency tests are available for most Secretarial and Office Specialties courses.

Representative First Job Titles: Legal Secretary, Medical Secretary, Administrative Secretary, Court Reporter, Word Processor.

SOCIAL STUDIES
College of Education
(Bachelor of Science)

M. Frances Giles, Coordinator
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Billy Dixon, Chairperson
Telephone - 618-453-2239
Wham Building, Room 327

A major in Social Studies may be pursued through the Department of Curriculum, Instruction and Media in the College of Education. Course work includes the areas of history, political science, economics, geography, and anthropology - psychology - sociology. Such a major is designed to prepare individuals for teaching in junior and senior high schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
*GSA 330	Weather	-	3
*GSB 104	The Human Experience: Anthropology	3	-
*GSB 202	Introduction to Psychology ²	3	-
*GSB 212	Intro. to American Government & Politics ²	4	-
GSC	Humanities (select) ¹	-	3
GSD 101	English Composition ²	3	-
GSD 117, 118, or 119	Writing (select) ^{1,2}	-	2
GSD 153	Public Speaking ²	-	3
GSE 201	Healthful Living ²	-	2
EDUC 201	Teacher's Role in Public School Education	-	1
*POL SCI 213	State and Local Government	-	3
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
*GSB 300	Origins of Modern America, 1492 to 1877 ²	3	-
*GSB 301	Modern America from 1877 to Present ²	-	3
GSC	Humanities (select) ¹	3	-
GSC	English Humanities Elective (required) ²	-	3
GSD	Math (select) ¹	4	-
GSE	Human Health and Well Being--activity ²	-	2
*ECON 214	Introduction to Macroeconomics	-	3
*SOC 301	Principles of Sociology	-	4
HIST	Elective in World History	3	-
		<u>16</u>	<u>15</u>

*Required courses in Social Studies.

¹Refer to the section General Studies for the Transfer Student.

²Required courses for teacher certification include: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics, or GSB 300 or 301, U.S. History; GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical Report or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours), Physical Education activity; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

Social Studies As A Major

Students should be aware of requirements for entrance into the Teacher Education Program.

SOCIAL WELFARE

Division of Social and Community Services
College of Human Resources
(Bachelor of Science)

Dr. Foster Brown, Coordinator
Telephone - 618-453-2243
Quigley Hall, Room 4

The Social Welfare program offers a professional accredited curriculum which is designed to meet the educational needs of students with career interests in the human services field and leads to a Bachelor of Science degree in Social Welfare. The curriculum provides an interdisciplinary approach to understanding man in contemporary society, basic social problems, and some of the issues associated with the prevention and treatment of these problems. Students are helped to understand the principles and basic skills employed in developing and delivering services to individuals, families, groups, and communities. Students are prepared for direct service practice in both rural and urban settings. Positions in child welfare, gerontology, mental health, health services, women's programs, public and private social service agencies are typically available to graduates.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	3	-
GSB 203	Sociological Perspective ²	-	4
GSC	Humanities (select) ¹	3	3
GSD II3	Introduction to Mathematics ³	2	-
GSD II2	Basic Concepts of Statistics ³	-	2
GSD I01 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSE	Human Health and Well Being (select) ¹	<u>1</u> 15	<u>1</u> 15
<u>Second Year</u>			
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	-	3
GSB 202	Introduction to Psychology ²	3	-
GSC	Humanities (select) ¹	3	-
GSD	Speech	-	2(3)
GSE	Human Health and Well Being (select) ¹	1	1
SW 375	Social Welfare as a Social Institution ⁴	-	3
HEALTH ED 311	Human Growth & Development	-	3
Electives		<u>5</u> 15	<u>3</u> 15(16)

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the selection, General Studies for the Transfer Student.

²Students are required to take these Area B courses.

³These 4 hours to include statistics are required for Social Welfare majors rather than Algebra.

⁴These courses are required for a Social Welfare major. For specific information regarding the acceptability of a major requirements from a junior college, the coordinator of the Social Welfare program may be contacted.

Third and Fourth Year

The last two years of a student's program concentrate on specific professional objectives. The student will complete 56-58 hours in the major area which includes 42-44 hours in Social Welfare, and 14 hours comprising courses such as Sociology, Psychology and Community Development.

A unique aspect of the Social Welfare program is an intensive field practicum. The practicum provides an opportunity to integrate theoretical knowledge and helping skills learned in the classroom with the "real world" settings of southern Illinois social services agencies. A concurrent weekly seminar supports this integration of theory and practice.

Representative First Job Titles: Social Worker, Social Welfare Aide, Rehabilitation Counselor, Casework Assistant, Neighborhood Worker, Residential Welfare Facilitator, School Counselor, Employment Aide, Cooperative Extension Service Worker, Recreation Worker, Alcoholism & Drug Addiction Researcher, Child Placement Agent, Community Planning & Redevelopment Expert, Probation and Parole, Case Aide, Medical Social Worker, Outreach Worker, Residential Care Worker, Mental Health Worker, Activities Director.

The sociology curriculum provides the student with an understanding of social problems, processes, development, structures, institutions and movements and with the concepts and methods used to study them. The sociology major is intended to be part of a broad education which will develop insights and understandings about social arrangements. Its intent is to prepare the student to live a satisfying and meaningful life and to pursue a career in areas where critical insight and breadth of perspective are criteria of success. The areas include a wide range of occupations in government, business and public service. A major in sociology provides a sound background for advanced study not only in sociology and other social behavioral sciences but in social welfare, corrections, recreation, educational administration and other applied fields. It also provides a useful background for professions such as the law and the ministry.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	-	3
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSD	Math (select) ¹	4	-
GSE	Human Health and Well Being (select) ¹	2	2
Math or CS	Mathematics or Computer Science ²	-	3
Elective ³		3	-
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	3
GSC or FL	Humanities (select) ¹ or Foreign Language ⁴	3(4)	3(4)
GSD	Speech (select) ¹	2(3)	-
SOC 301	Principles of Sociology ⁵	-	4
Elective ³		3	3
		<u>14-16</u>	<u>13-14</u>

¹See General Studies for the Transfer Student.

²One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

³Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

⁵Required for the sociology major.

Sociology As A Major

There are numerous resources available to sociology students including a comprehensive sociology library in Morris Library, statistical laboratories, and computer facilities for those students interested in both humanistic and quantitative sociology. The curriculum provides flexibility in a variety of teaching, learning formats including seminars, individual projects and individual reading courses.

Sociology majors are employed in a wide range of occupations in government, business, education and public service. In addition to providing a valuable background for professions such as the law, counseling, and the ministry, a major in sociology provides a sound background for more advanced study, not only in a range of social and behavioral sciences, but in social welfare, criminal justice and corrections, recreation, educational administration and other applied fields.

Representative First Job Titles: Area Studies Specialist, Child Behavior Studies Specialist, Child Placement Studies Specialist, Child Welfare Studies Specialist, Civic Reform Studies Specialist, Community Planning & Redevelopment Personnel, Community Relations Personnel, Venereal Disease Investigator, Sales Trainee, Family Welfare Studies, Legal Assistance Officer, Group Interaction Studies, Group Supervisor in Mental Health, Action Volunteer, Minority Groups & Race Relations Studies, Patrolman, Counselor, Management Trainee (Corporations), Public Opinion Polls, Probation Parole Officer, Administrative Aide (Gov't.), Child Care Worker, Claims Authorizer, Social Stratification Analyst.

Programs of study in foreign languages leading to the Bachelor of Arts degree (with or without teacher certification) are offered in Classics, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree for students who have a professional or occupational interest in Asia. Student wishing to work towards this major are encouraged to take an Asian language.

Student majoring in a foreign language usually begin at the second or third level. The student who has taken two years of one foreign language in high school (or equivalent) may earn proficiency credit through taking a proficiency exam in French, German, Latin, Spanish at the Testing Center, or in Chinese, Greek, Japanese, Russian, at the Foreign Languages and Literatures Department. For additional credit, students with more than two years are encouraged to take a validating course. Students with four years in one foreign language at the high school level are encouraged to continue with that language. Since proficiency credit of up to 16 hours is available, such students are in a position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
SPAN 140a,b	First-year Spanish ²	4	4
GSE	Human Health and Well Being (select) ¹	2	-
GSD	Math (select) ¹	-	4
		15	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	-	3
GSC	Humanities (select) ¹	3	-
GSD	Speech (select) ¹	2(3)	-
SPAN 201a,b	Second-year Spanish ³	3	3
SPAN 220a,b	Spanish Conversation ⁴	2	2
MATH or CS	or Computer Science ⁵	-	3
GSE	Human Health and Well Being (select) ¹	-	1
		15(16)	15

*See also the program under the College of Education.

¹See General Studies for the Transfer Student.

²The first year of Spanish does not count towards the major. Spanish 175-5 may substitute for 140 a,b.

³Required by the major. Spanish 275-5 may substitute for 201 a,b. Students with more than one year of high school Spanish should take at least one substantial course in the Spanish major each semester.

⁴Only one semester of Intermediate Conversation may count towards the major.

⁵One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

Spanish As A Major: A major in Spanish consists of 36 semester hours in courses above the 100 level with at least 12 hours on the 300 level (to include 306, 320, and one 300 level literature course) and 12 hours on the 400 level (to include Spanish 415). A summer travel-study program in Mexico is available.

A minor in Spanish consists of 18 hours in courses above the 100-level.

Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

SPECIAL EDUCATION
College of Education
(Bachelor of Science)

M. Frances Giles, Coordinator
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. David Sabatino, Chairperson
Telephone - 618-453-2311
Pulliam Hall, Room 127

In the Department of Special Education, teachers are prepared to work with behaviorally disordered, mentally retarded, and learning disabled children. Students seeking the Standard Special Certificate will complete a 120 semester hour program leading to approval in one of the three handicap areas listed above. Students who wish to obtain joint certification in special education and elementary education must complete a 144 to 149 hour program.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	3	-
GSC 100	Music Understanding	-	2
GSC 101	Introduction to Art	-	3
GSD 101	English Composition ²	3	-
GSD 117 or 119	Expository or Creative Writing ²	-	2
Math 114	Algebraic & Arithmetic Systems	4	-
GSE 201	Healthful Living ²	-	2
GSE	Human Health and Well Being (select) ^{1,2}	2	-
Ed 201	Teacher's Role in Public Education	-	1
Electives		-	3
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB 202	Introduction to Psychology ²	3	-
GSB 300 or 301	U. S. History ²	-	3
GSC	Humanities (select) ¹	3	-
GSC	Literature (select) ^{1,2}	-	3
GSD 153	Public Speaking ²	3	-
MUS 101	Music Fundamentals	2	-
Mus 302	Music in Special Education	-	2
Math 314	Topics in Mathematics for Elementary Teachers	4	-
GSB 212	Intro. to American Government & Politics	-	4
		<u>15</u>	<u>15</u>

¹ Refer to the section General Studies for the Transfer Student.

² The following are required courses for certification: GSB 202, Introduction to Psychology; GSB 212, American Government OR GSB 300 or 301, History of the United States; GSC 100, Music Understanding; GSC 101, Introduction to Art, or GSC 205, Innovation for the Contemporary Environment; Music 101, Fundamentals of Music for GSC (substitution); GSD 101, English Composition; GSD 117, 118 or 119, Expository, Technical or Creative Writing; GSD 153, Public Speaking; GSE 100-114 (2 hours) Physical Education activity; GSE 201, Healthful Living; and one additional English course (GSC, GSD or departmental).

SPEECH COMMUNICATION

(Communication Arts & Studies)
College of Communications and
Fine Arts
(Bachelor of Science)

Dr. Randall Bytwerk, Advisement
Telephone - 618-453-2291
Communications Bldg, Room 2002

The Department of Speech Communication offers courses in the history, theory and application of communication. Program specializations prepare majors for professional, artistic and instructional careers in human communication. The department also sponsors cocurricular activities in debate, forensics, oral interpretation, creative drama and public relations. Students in debate and individual event teams travel extensively and are consistently ranked in the top five nationally. The oral interpretation group performs regularly on the Calipre Stage and the creative drama students take their talents into the elementary schools in southern Illinois.

General Speech and Public Relations majors are fully prepared to accept positions in such areas as advertising, market research, corporate and consumer relations, all levels of government administration, and related agency work. Traditionally, speech communication majors pursue careers in such fields as sales, law, personnel management, politics, career diplomacy, social work, professional negotiation and arbitration, artistic performance, business and industry.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	3	3
GSC	Humanities (select) ¹	3	-
*GSC 200	Oral Interpretation of Literature	-	3
GSD 101	English Composition	3	-
GSD 117, 118			
or 119	Writing (select) ¹	-	2
GSD 152 or 153	Interpersonal Communications or Public Speaking	-	2 (3)
GSE	Human Health and Well Being - Activity	1	1
Electives		3	3
		16	17 (18)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	-	3
GSB	Social Studies (select) ¹	3	-
GSC	Humanities (select) ¹	3	-
GSD	Mathematics (select) ¹	-	4
GSE	Human Health and Well Being(select) ¹	1	1
*SPCH 221	Advanced Public Speaking	3	-
*SPCH 230	Introduction to Communication Theory	3	-
*SPCH 262	Interpersonal Communication II	-	3
Electives		2	4
		15	15

*Departmental requirements.

¹ Refer to section General Studies for the Transfer Student.

Secondary students and community college students are encouraged to take part in as much speech activity work as possible prior to entering SIUC. Those who are interested in specializing in oral interpretation should also take as many literature courses as possible. Those students interested in other aspects of oral communication should take elective work in high school or at the community college in the social science areas.

Speech Communication As A Major

No minor required; no foreign language required.

The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

Graduate degrees (M.A., M.S., and Ph.D.) are available in Speech Communication. Students choose electives to build desired specialization.

Representative First Job Titles: Interpreter, Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer.

SPEECH COMMUNICATION
(Communication Education)
College of Communications and Fine Arts
College of Education
(Bachelor of Science)

Dr. Randall Bytwerk, Advisement
Telephone - 618-453-2991
Communications Building, Room 2002

M. Frances Giles, Coordinator
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

A major in the Department of Speech Communication provides the undergraduate with a substantial background in the history, theory, and application of verbal and nonverbal communication. The program specializations are designed to develop the language and personal skills for professional, artistic, and instructional careers in human communication; to explore the social and cultural implications of human interaction; to compare the aesthetic and instrumental nature of oral communication; and to provide cosmopolitan and diverse opportunities for the study of and training for communication as personal perception and expression. A degree in speech communication enables the student to secure employment in a variety of professions. Communication Education majors are successfully placed as teachers from sixth grade through senior high school.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
*GSB 202	Introduction to Psychology	3	-
*GSB 212	American Government and Politics	-	4
*GSC 203	Introduction to Theater	3	-
*GSC 200	Oral Interpretation of Literature	-	3
GSD 101	English Composition	3	-
GSD 117, 118			
or 119	Writing (select) ¹	-	2
*GSD 153 or 152	Public Speaking or Interpersonal Communication	-	3 (2)
GSE	Human Health and Well Being--Activity	1	1
*GSE 201	Healthful Living	2	-
*ED 201	Teacher's Role in Public School Education	1	-
		16	16 (15)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Studies (select) ¹	-	3
GSC	English in Humanities (select) ¹	-	3
GSD	Mathematics (select) ¹	4	-
*SPCH 221	Advanced Public Speaking	3	-
*SPCH 230	Introduction to Speech Communication	3	-
*SPCH 261	Small Group Communication	-	3
*SPCH 262	Interpersonal Communication II	-	3
Electives		3	3
		16	15

*Departmental requirements.

¹Refer to section General Studies for the Transfer Student.

College of Education requires for certification: GSB 202; GSB 212, 300 or 301; GSD 101; GSD 117, 118 or 119; GSD 153; GSE 100-114 (2 hours), GSE 201; and one additional English course from GSC, GSD or department.

Speech Communication As A Major

A student interested in the major should be aware of the requirements for entrance into the Teacher Education Program. The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

SPEECH COMMUNICATION

(Oral Interpretation)
College of Communications and
Fine Arts
(Bachelor of Science)

Dr. Randall Bytwerk, Advisement
Telephone - 618-453-2291
Communications Bldg, Rm 2002

The Department of Speech Communication offers courses in the history, theory and application of communication. Program specializations prepare majors for professional, artistic and instructional careers in human communication. The department also sponsors cocurricular activities in debate, forensics, oral interpretation, creative drama and public relations. Students in debate and individual event teams travel extensively and are consistently ranked in the top five nationally. The oral interpretation group performs regularly on the Calipe Stage and the creative drama students take their talents into the elementary schools in southern Illinois.

Oral Interpretation majors often pursue careers in theatre, radio and television entertainment, publishing companies, literary criticism, writing, and education. Traditionally, speech communication majors pursue careers in such fields as sales, law, personnel management, politics, career diplomacy, social work, professional negotiation and arbitration, artistic performance, business and industry.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	-	3
*GSB 202	Introduction to Psychology	3	-
GSC	Humanities (select) ¹	3	-
*GSC 200	Oral Interpretation of Literature	-	3
GSD 101	English Composition	3	-
GSD 117, 118			
or 119	Writing (select) ¹	-	2
GSD 152 or 153	Interpersonal Communication or Public Speaking	-	2 (3)
*GSE 103d	Dance (Beginning Contemporary)	2	-
Electives		3	3
		17	16 (17)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Studies (select) ¹	3	-
GSC	Humanities (select) ¹	-	3
GSD	Mathematics (select) ¹	-	4
GSE	Human Health and Well Being - Activity	-	2
*SPCH 221 or 261	Advanced Public Speaking or Small Group Communication	3	-
*SPCH 262	Interpersonal Communication II	3	-
*THEA 303	Voice and Diction	2	-
*THEA 207	Fundamentals of Theatrical Design	-	2
*ENG LIT	Recommended by Department	-	3
Electives		3	3
		17	17

*Departmental requirements.

¹ Refer to section General Studies for the Transfer Student.

Secondary students and community college students are encouraged to take part in as much speech activity work as possible prior to entering SIUC. Those who are interested in specializing in oral interpretation should also take as many literature courses as possible. Those students interested in other aspects of oral communication should take elective work in high school or at the community college in the social science areas.

Oral Interpretation (Speech) As A Major

No minor required; no foreign language required. The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

Graduate degrees are available in Speech Communication. Students choose electives to build desired specialization.

Representative First Job Titles: Interpreter, Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer.

SPEECH COMMUNICATION

(Public Relations)
College of Communications and
Fine Arts
(Bachelor of Science)

Dr. Michael Parkinson, Advisement
Telephone - 618-453-2291
Communications Bldg., Room 2002

The Department of Speech Communication offers courses in the history, theory and application of communication. Program specializations prepare majors for professional, artistic and instructional careers in human communication. The department also sponsors cocurricular activities in debate, forensics, oral interpretation, creative drama and public relations.

General Speech and Public Relations majors are fully prepared to accept positions in such areas as advertising, market research, corporate and consumer relations, all levels of government administration, and related agency work. Traditionally, speech communication majors pursue careers in such fields as sales, law, personnel management, politics, career diplomacy, social work, professional negotiation and arbitration, artistic performance, business and industry.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212	Intro. to American Gov't & Politics	-	4
GSA	Science (select) ¹	3	3
*GSB 202	Introduction to Psychology	3	-
GSC	Humanities (select) ¹	3	3
GSD 101	English Composition	3	-
GSD 117, 118			
or 119	Writing (select) ¹	-	2
*GSD 153 or 152	Public Speaking or Interpersonal Communication	2 (3)	-
GSE	Human Health and Well Being - Activity	1	1
ECON 214	Macroeconomics	-	3
		15 (16)	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSC	Humanities (select) ¹	-	3
GSD	Mathematics (select) ¹	4	-
GSE	Human Health and Well Being - Activity	2	-
*SPCH 326	Persuasion	-	3
*R&T 300m	Radio-Television Writing Performance Production	-	4
*JRNL 300	Mass Media in Modern Society	-	3
*JRNL 310	Writing for the Mass Media	-	3
SPCH 280	Business & Professional Communication	3	-
SPCH 280	Small Group Communication	3	-
		15	16

*Departmental requirements.

¹ Refer to section General Studies for the Transfer Student.

Note: Students must demonstrate proficiency in typing at least 30 words per minute.

Public Relations (Speech Communication) As A Major

The public relations specialization is an interdisciplinary program with a focus on communication studies designed with the assistance of and approved by the Public Relations Society of America. The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

Membership in the Raymond D. Wiley Chapter of the Public Relations Student Society of America provides opportunities for internships, field trips, job placement, involvement in on and off campus public relations projects and association with professional practitioners.

Representative First Job Titles: Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer.

A major in Speech Communication may be obtained from the Department of Speech Communication, through the College of Communications and Fine Arts, College of Liberal Arts, or the College of Education. Courses offered by the Speech Communication Department include principles of speech, semantics, discussion, argumentation and debate, persuasion, public address, the oral interpretation of prose and poetry, public relations, and interpersonal communication. Majors in this area may find positions in many phases of business and industry, particularly those relying on the effective communication of ideas and information.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Science (select) ¹	3	3
GSC	Humanities (select) ¹	-	3
GSD 101 & 117, 118 or 119	English Composition and Writing (select) ¹	3	2
GSD 152 or 153	Interpersonal Communication or Public Speaking	2(3)	-
GSD	Math (select) ¹	-	4
GSE	Human Health and Well Being (select) ¹	2	2
Elective ²		2	-
		<u>15-16</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Science (select) ¹	-	3
GSC 200	Oral Interpretation of Literature	3	-
GSC or FL	Humanities (select) ¹ or Foreign Language ⁴	3(4)	3(4)
Sp 221	Advanced Public Speaking ³	3	-
Sp 261	Small Group Communication	-	3
Math or CS	Mathematics or Computer Science ⁵	3	-
Elective ²		-	3
		<u>15-16</u>	<u>15-16</u>

*This is not a professional concentration, but a liberal arts concentration. See also the programs under the College of Communications and Fine Arts and the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

³Required by the major.

⁴Two semesters (which is generally eight hours) or a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GSC credit and three hours may be used to complete the thirty hours which are required from GSA, GSB, or GSC. If no foreign language is required, then the student may choose the GSC option instead.

Representative First Job Titles: Interpreter, Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer.

The Baccalaureate Studies program in technical careers is designed for individuals who are following a career path for which there is no existing program leading to the bachelor's degree. More specifically, it is designed for students who have completed an occupational associate degree (or its equivalent) and who would like to add to or broaden their career preparation. It allows the career-oriented student to design an individualized course of study that exactly fits the individual's educational needs.

Unlike conventional programs, the STC baccalaureate studies program has no established curriculum or required courses. With the help of an STC baccalaureate faculty member, each student designs a program of study to give the preparation needed for advancing in a particular field.

In preparing a program of study, a student may choose courses from any of the undergraduate colleges and schools at SIUC. For example, a student with an associate degree in automotive technology who wishes to work in automotive service management may include courses in small business management, business law, management and supervision, personnel psychology, and applied accounting. A student with an associate degree in commercial graphics who wishes to be a writer and illustrator of children's books may design a curriculum which includes courses in art, children's literature, creative writing, and child psychology.

In addition to admission to SIUC, the student must meet these requirements in order to be admitted to the individualized baccalaureate studies program:

- Have completed at least two terms of post-secondary education;
- Have an approved learning contract on file with the program;
- Special approval if more than 90 semester hours of post-secondary education have been accomplished.

Requirements for the Bachelor of Science degree in technical careers include:

- Complete two years of study (60 hours minimum) beyond the occupational associate degree, including all SIUC baccalaureate degree requirements
- Complete the requirements listed in the learning contract
- Obtain credit for approved work experience or internship
- Be enrolled full time in the baccalaureate studies program for at least two terms

In addition to being able to design individualized courses of study, students may also receive credit for previous civilian and military work experience as well as for military schools. This experience, of course, must be related to the career goal.

Because each student's program is individualized, it is not possible to give a detailed curriculum each student will follow. The general model, however, is as follows:

Associate Degree Courses (at community college or at SIUC) 60 hours
(Associate degree can be in almost occupational field, from Allied Health to Welding)

<u>Baccalaureate Courses</u> (at SIUC)		<u>Capstone</u>	<u>Regular General Studies</u>	
1.	General Studies	approx.	15	approx. 30
2.	Secondary Concentration (career-related courses taken beyond the associate degree)	minimum of	30	minimum of 18
3.	Internship		6	6
4.	Electives	approx.	9	6
Total			60	60

Admission to the STC baccalaureate studies program does not imply admission to any STC associate degree program. Students who wish to take courses in an associate degree program, must obtain the consent of the associate degree program coordinator.

Because the STC baccalaureate program takes a limited number of students, early application is advisable.

THEATER

(Acting-Directing Option)
(Design-Technical Option)
(Playwriting-Dramatic Literature
Option)

College of Communications and Fine Arts
(Bachelor of Arts)

Darwin Payne, Chairperson
Telephone - 618-453-5741
Communications Bldg, Room 1035

Instruction and training in all phases of dramatic production for the stage and in basic techniques for dramatic production in television, radio, and motion pictures are provided.

Education for dramatic production entails (1) training and practice in acting, directing, and technical production (stage management, crew work, the planning and execution of costumes, lighting, and scenery); (2) understanding of the essential nature of theater art through study of theater esthetics, history, and criticism; (3) survey of theater management practice; (4) a study of the principles and techniques of playwriting and; (5) a knowledge of dramatic literature.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	-
GSB	Social Studies (select) ¹	3	3
GSD 101 and 117			
118 or 119	English Composition and Writing (select) ¹	3	2
GSD 153	Public Speaking	3	-
GSD 107 or 110	Intermediate Algebra or		
or 112	Statistics ¹ (select one)	-	4 (2)
GSE	Human Health and Well Being (select) ¹	2	2
*THEA 203a,b	Voice and Diction	3	3
		<u>17</u>	<u>14 (12)</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSA	Science (select) ¹	3	3
GSB	Social Studies (select) ¹	3	-
GSC	Humanities (select) ¹	-	3
*THEA 218a,b	Staging Techniques	6	3
*THEA 213a,b	Stage Movement	3	3
*THEA 207	Fundamentals of Theatrical Design	2	-
Electives ²		-	5
		<u>17</u>	<u>17</u>

*Required courses for a major in Theater. Consult department for "option" requirements.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Studies for the Transfer Student.

²Students should consult with the department regarding the selection of courses to fulfill this requirement.

Theater As A Major

No minor is required. Graduate degrees available.

The University Theater, under the supervision of the Theater faculty, produce each year four full-length plays, and three programs of original one-acts. Each summer a resident stock company produces a playbill in the air-conditioned University Theater.

Many opportunities for practical experience with more production activity than most theater departments.

A few tuition scholarships are available.

Students can participate in the production of new plays.

Numerous opportunities are available to see Broadway touring shows brought to campus.

Representative First Job Titles: Illustrator, Recreation Specialist, Costume Designer, Visual Information Specialist, Sound Effect Technician, Theater Drafting Technician, Make-up Specialist, Sales (Magazine), Lighting Effect Technician, Scenery Specialist, Crew Worker in the Television, Crew Worker in the Motion Picture, Costume Specialist, Performing Artist, Folk Dancer, Ballet Dancer, Choreographer (Dance Composer), Assistant to the Dance Director, Assistant to the Play Director, Theater Management Staff, Educational Television Staff, Children's Program Specialist, Modern Dancer, Understudies Artist.

The metal fabrication and processes specialization provides training in machine shop, welding and fabrication. Students in this specialization will learn to operate such machine tools as lathes, milling machines, grinders and drill presses. They will develop proficiency in a variety of welding skills and learn to use oxy-acetylene, electric arc, metallic inert gas and tungsten-inert gas welding machines.

Graduates of the program may choose to work as a tool and manufacturing technician. They will have the technical background required to work with engineers in research, development and testing. In addition, they will be skilled in metal cutting and fabrication.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSD 101	English Composition	-	3
STC 105a,b	Technical Mathematics	-	4
TT 101	Basic Tool and Manufacturing Lab	7	-
TT 102	Milling Machine and Grinding Lab	-	7
TT 125	Introduction to Machine Tools	3	-
TT 126	Machinability of Metals, Milling and Abrasive Machining	-	3
TT 128	Hydraulic and Pneumatic Controls	2	-
TT 180, 181	Welding I and II	3	3
TT 185	Technical Drawing I	4	-
		<u>19</u>	<u>20</u>
<u>Second Year</u>			
GSB	Social Science elective	-	3
GSD or STC	Speech or Technical Writing	-	2 (3)
STC 107a,b	Applied Physics	4	-
TT 182	Welding III	3	-
TT 183	Welding Blueprint Reading	2	-
TT 225	Manufacturing Processes	-	2
TT 275, 276	Ferrous and Tool Steel Metallurgy	2	2
TT 310	Certified Welder Training	6	6
		<u>17</u>	<u>15 (16)</u>

Representative First Job Titles: Machinist, Model Maker, Engineering Technician, Prototype Builder, Machine Maintenance Mechanic, Welder, Process Planner.

TOOL AND MANUFACTURING TECHNOLOGY
 (Tool and Manufacturing--Numerical Control)
 School of Technical Careers
 (Associate in Applied Science)

H. R. Soderstrom
 Program Coordinator
 Telephone - 618-985-4110
 STC Carterville Campus

More and more technicians are needed because of the growing array of automated and numerically controlled machines. The tool and manufacturing curriculum is designed specifically to do just this: prepare the student in specific technical areas that are in great need of trained and skilled people. The tool and manufacturing curriculum furnishes technical information in tool making, metallurgy, statics, strength of material, numerical and electric controls, manufacturing processes, process planning, and machinability of metals.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 101	English Composition	-	3
GSB 202	Introduction to Psychology	-	-
or			
GSB 212	Intro to American Government & Politics	-	3 (4)
STC 105a,b	Technical Mathematics	4	-
TT 101	Basic Tool and Manufacturing Lab	7	-
TT 102	Milling Machine and Grinding Lab	-	7
TT 125	Introduction to Machine Tools	3	-
TT 126	Machinability of Metals, Milling, and		
	Abrasive Machining	-	3
TT 128	Hydraulics and Pneumatic Control	2	-
TT 185, 186	Technical Drawing I & II	4	4
		<u>20</u>	<u>20 (21)</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
EDP 208a	Numerical Control Programming	4	-
STC 102	Technical Report Writing	-	-
or			
STC 153	Conference Methods	-	2
STC 107a,b	Applied Physics	4	-
TT 210	Numerical Control, Electrical Discharge		
	Machining, and Tool and Die	7	-
TT 211	Advanced Numerical Control, Tool and Die,		
	and Production Machining	-	7
TT 220	Numerical Control, Inspection Practice,		
	and Electrical Discharge	3	-
TT 221	Tool and Die, Production Machining, &		
	Process Planning	-	3
TT 275	Ferrous Metallurgy	2	-
TT 276	Tool Steel Metallurgy	-	2
TT 225	Manufacturing Processes	-	2
		<u>20</u>	<u>16</u>

Tool And Manufacturing Technology As A Major

This program provides knowledge and abilities for industries requiring engineering technicians. Graduates accept jobs as part programmers of numerical control machines, laboratory technicians, planners, methods and quality control technicians, expeditors, tool and die technicians, tool room technicians, and tool room supervisors.

Emphasis is on modern machine tools and accessories, numerical control machines, production set-ups and tooling, jigs and fixtures, dies, and methods for efficient and economical production and manufacture of industrial products and machines.

Also included are courses detailing with the properties and heat treatment of metals, mathematics, technical drawing, technical writing, oral communications, and the human relations aspects of our American industrial life.

The student in this program will have the advantage of courses in data processing that will give him or her the ability to work with computer-assigned programming for numerical controlled machines.

He or she will learn to design and test industrial, electrical, hydraulic, and pneumatic power circuits; to read blueprints, design basic jigs and fixtures, make shop sketches, and alter existing machines for structural changes; and to build basic progressive dies, draw dies, die casting dies, and plastic injection mold dies.

The graduate will have the technical background to work with engineers in research, development and testing, plus skills in metal cutting that will give him or her the abilities of a tool maker.

Representative First Job Titles: Machinist, Tool & Die Maker, Model Maker, Engineering Technician, Maintenance Worker, Prototype Builder, Inspector, Process Planner.

The University Studies Baccalaureate Program is a non-traditional, individualized means of obtaining a degree for students who are interested in designing a multidisciplinary, interdisciplinary, or general program of study. Especially suited to re-entry students, University studies allows them to adapt their studies to their educational, career, and family situations.

In University Studies, the student can either pursue a Bachelor of Arts or a Bachelor of Science degree. The Bachelor of Arts requires passing one full year of a foreign language through course work or proficiency exam.

Unlike traditional programs, University Studies does not have an established curriculum. Instead, students use the resources of the entire University. For example: a person interested in arts management may combine courses in the fine arts with others in or related to business, thereby gaining skills enabling him/her to manage a civic center or theater. Or, a person wishing to attend graduate school to become a librarian may combine instructional media and languages courses with courses from a particular field of interest; such a strong curriculum prepares him/her for entrance into a graduate library school. Other students may opt to pursue a broad, general education or to combine a general range of courses with work experience.

To be admitted to the program, the student must have:

1. At least 24 semester hours passed.
2. No more than 90 semester hours passed.
3. A 2.25 grade point average (on a 4.00 scale).
 - a. The 2.25 must be in all courses taken from SIUC, if the student is a continuing or re-entry SIUC student.
 - b. The 2.25 must be the overall GPA on all previous college work for a transfer student entering SIUC for the first time.

A student also cannot exceed the program's prescribed limits on distribution of courses, either at entry or while in the program:

1. No more than 20 semester hours may be taken and passed in any department or school within a college, over and above General Studies requirements.
2. No more than 40 semester hours, in addition to General Studies requirements, may be taken or passed in any SIUC college or major academic unit, or its equivalent in an institution from which the student has transferred. The following is the only exception:
3. In the College of Liberal Arts, as many as 27 semester hours may be taken from the Social Sciences area and 27 semester hours from the Humanities areas.

In addition to being able to design individualized courses of study, students may receive credit for previous and current work and military experience. This experience should, of course, be related to career goals.

A general model of a curriculum for a degree from USBP might be:

1. General Studies	45 sem. hrs.
2. Senior level courses (300-400)	40 sem. hrs.
3. Foreign Language	8 sem. hrs. (for the B.A. only)
4. Other courses at any level	<u>27 sem. hrs.</u> (35 for the B.S.)
TOTAL	120 sem. hrs.

After admission to the University as an undecided student or in a major, a student should arrange an interview with the University Studies Program director to determine eligibility. If criteria are met, the student can then be admitted to the program.

A curriculum developed in zoology provides one with a knowledge of animals, their biology and conservation. The 22 faculty members of the Department of Zoology represent a wide range of these professional zoological disciplines. A wide variety of courses is offered in the biologically rich and diverse environment of Southern Illinois with excellent study facilities in a new \$11 million life science building equipped with specialized laboratories, computer facilities, research museum, and animal quarters. Associated are the Cooperative Fisheries and Wildlife Laboratories which make important contributions to the education of many undergraduates.

The department's faculty and graduate students provide personal opportunities for student introduction to interesting specialties. This is augmented by the unique INDIVIDUALIZED CURRICULUM prepared for each student majoring in zoology. Arrangements are made through the Director of Undergraduate Studies for each student to select a faculty advisor to plan with him or her a specific program of courses in zoology and supporting areas (usually other biological sciences, math and chemistry).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 212, 300, or			
301	American Government or U. S. History ³	4 (3)	-
GSD 101	English Composition ³	3	-
GSD 117, 118, or			
119	Writing ³	-	2
GSE 201	Healthful Living ³	-	2
GSE	Human Health & Well Being-Activity (select) ^{2,3}	1	-
*MATH 111	College Algebra and Trigonometry	5	-
ZOOL 220a,b	Diversity of Animal Life	4	4
**CHEM 224, 225	Introduction to Chemical Principles & Lab	-	7
		17 (16)	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB 202	Introduction to Psychology ³	3	-
GSB	Social Studies (select) ²	-	3
GSC	English Elective in Humanities (select) ^{2,3}	3	-
GSC	Humanities (select) ²	3	3
GSD 153	Public Speaking ³	-	2
GSE	Human Health and Well Being--Activity ³	-	1
**BIOL 305	Genetics - Classical and Molecular	3	-
**BIOL 307	Environmental Biology	-	3
ED 201	Teacher's Role in Public School Education	1	-
ZOOL 300	Vertebrate Embryology	4	-
ZOOL Elective		-	4
		17	16

*Approved substitute for GSD Math.

**Approved substitutes for GSA.

¹ Should also have a minor in Botany. See also the program under the College of Science.

² Refer to the section General Studies for the Transfer Student.

³ The following are required courses for certification: GSB 202, Introduction to Psychology; GSB 212, Introduction to American Government and Politics OR GSB 300 or 301, History of the United States; GSD 101, English Composition; GSD 117, 118, 119, Expository, Technical, or Creative Writing; GSD 153, Public Communication; GSE 100-114 (2 hours), Physical Education Activities; GSE 201, Healthful Living; One additional English course (GSC, GSD, or departmental); Math 111 or 110a,b, College Algebra and Trigonometry.

Zoology As A Major

Students pursuing a Bachelor of Science in Education are not required to complete a foreign language.

Refer to the Undergraduate Catalog for specific major requirements.

ZOOLOGY

College of Science
(Bachelor of Arts)
(Bachelor of Science)

Dr. Dwayne Englert
Dir. of Undergraduate Studies
Telephone - 618-536-2314
Life Science 11, 351 or 355F

A curriculum developed in zoology provides one with a knowledge of animals, their biology and conservation. The 22 faculty members of the Department of Zoology represent a wide range of these professional zoological disciplines. A wide variety of courses is offered in the biologically rich and diverse environment of Southern Illinois with excellent study facilities in a new \$11 million life science building equipped with specialized laboratories, computer facilities, research museum, and animal quarters. Associated are the Cooperative Fisheries and Wildlife Laboratories which make important contributions to the education of many undergraduates.

The department's faculty and graduate students provide personal opportunities for student introduction to interesting specialties. This is augmented by the unique INDIVIDUALIZED CURRICULUM prepared for each student majoring in zoology. Arrangements are made through the Director of Undergraduate Studies for each student to select a faculty advisor to plan with him or her the specific program of courses in zoology and supporting areas (usually other biological sciences, math and chemistry).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select)	-	3
GSC	Humanities (select)	-	3
GSD 101	English Composition	3	-
GSD 117,118 or 119	Writing (select)	-	2
MATH 111 or MATH 110a,b	College Algebra and Trigonometry ^{1,2,3}	5 (3)	- (2)
Elective or			
CHEM 115	Introductory General Chemistry ^{1,2,4}	3	-
CHEM 222a	Introduction to Chemical Principles ^{1,2,4}	-	4
ZOOL 118	Introductory Zoology ^{1,2}	4	-
ZOOL 220a	Diversity of Animal Life (invertebrate) ²	-	4
		15 (14)	16 (18)
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GSB	Social Studies (select)	-	3
GSC	Humanities (select)	2	-
GSD	Speech	2 (3)	-
GSE	Human Health and Well Being(select)	-	1
CHEM 222b	Introduction to Chemical Principles ^{2,4}	4	-
MATH 140 or 150	Calculus	-	4
ZOOL 220b	Diversity of Animal Life (vertebrate)	4	-
BIOL 307	Environmental Biology ^{1,2}	-	3
FL	Foreign Language ^{1,2}	4	4
		16 (17)	15

¹Approved substitutes for General Studies.

²The College of Science requires one year of any foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

³GSD 107 or 1½ years of high school algebra is a prerequisite to Math 111 and 110a.

⁴Chem 115 is for students who have less than one year of high school chemistry. Chem 222a,b or 224, 225 will satisfy Zoology Department requirements for inorganic chemistry. For some students, Chem 140a,b will be adequate.

Majors in zoology should consult with the Director of Undergraduate Studies in Zoology as soon as possible and arrange to develop an individualized curriculum under the supervision of a faculty advisor.

Zoology As A Major

A major in zoology is an appropriate beginning for those planning to specialize in teaching or research in the zoological sciences and allied fields such as conservation, environmental protection, fisheries or wildlife management, dentistry, medicine, or veterinary medicine. Most positions are available in schools, local, state, and federal government agencies, museums, hospitals, and chemical, instrument, food and drug industries.

Graduate degree programs leading to M.A., M.S., and Ph.D. are available.

Representative First Job Titles: Zoologist, Animal Breeding Technician, Animal Ecologist, Animal Husbandry Supervisor, Animal Taxonomist, Biological Warfare Technician, Genetics Technician, Medical Laboratory Assistant, Quality Control Laboratory Technician, Technical Library Operator, Entomologist, Physiologist, Wildlife Lab Assistant, Wildlife Refuge Manager, Parasitologist, Zoological Park Keeper, Mammalogist, Research Technician.

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PUBLICATIONS

PUBLICATIONS FOR COUNSELORS

Counselor's Advisement Catalog

Every counselor and academic advisor should have a personal copy. Write School/College Relations Division, Office of Admissions and Records.

Undergraduate Catalog

Copies are distributed free to educational institutions and counselors--use school stationery. Graduate Catalog, School of Law Catalog, Schedule of Classes (specify semester) are also available by writing University Graphics.

School/College News

Published as needed to inform immediately counselors, student personnel services, staff, etc., of items of interest, status of programs, changes in academic or unit requirements.

PUBLICATIONS FOR STUDENTS

General Information for Undergraduates

This small pictorial and factual booklet contains information and guidelines for the prospective student. It is distributed in application packets, at college days, night programs, and in correspondence. Quantities will be sent on request. Write University Graphics or School/College Relations Division, Office of Admissions and Records.

New Student Newsletter

Published as needed to inform immediately students and their families about items of interest, status of programs, changes in procedures, etc.

OTHER MATERIALS AND OFFICES

Admission Applications--Office of Admissions and Records

Testing Information (ACT, CLEP)--Testing Office, Career Planning and Placement Center

Financial Aid Applications--Office of Student Work and Financial Assistance

University Housing Information--Housing Business Services, Washington Square, Building D

Off-Campus (Private) Housing Information--Housing Information Center, Washington Square, Building C

NOTES

NOTES

NO COPY AVAILABLE OF
VOLUME 24, NUMBER 3,
GENERAL INFORMATION FOR UNDERGRADUATES.

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**Southern Illinois University
at Carbondale**

Bulletin

1982-83 School of Law Catalog



Southern Illinois University at Carbondale is an Equal Opportunity Affirmative Action institution in accordance with civil rights legislation and does not discriminate on the basis of race, religion, national origin, sex, age, handicap, or other factors prohibited by law in any of its educational programs, activities, admission, or employment practices. Concerns regarding this policy should be referred to the Affirmative Action Office, Southern Illinois University at Carbondale, Anthony Hall, Room 104, telephone 618-536-6618.



**Southern
Illinois
University
at Carbondale
Bulletin**

**1982-83
School of Law
Catalog**

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This Issue

The School of Law Catalog covers in detail questions concerning the School of Law program at Southern Illinois University at Carbondale. (It supersedes Vol. 23, No. 3, of the *Southern Illinois University at Carbondale Bulletin*.) All statements in this catalog are announcements of present policies and are subject to change at any time without prior notice. They are not to be regarded as offers to contract.

The following publications may be obtained free from University Graphics, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Graduate Catalog
Undergraduate Catalog
School of Law Catalog
Schedule of Classes (fall, spring, or summer)

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Board of Trustees and Officers of Administration

Board of Trustees of Southern Illinois University

Term Expires

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School of Law Calendar

Fall Semester, 1982

Orientation
Semester classes begin
Labor Day holiday
Thanksgiving vacation

Last day of classes
Final examinations

Friday, August 20-Sunday, August 22
Monday, August 23
Monday, September 6
Saturday, November 20, 12:00 noon-
Monday November 29, 8:00 A.M.
Monday, December 6
Wednesday, December 8-
Friday, December 17

Spring Semester, 1983

Semester classes begin
Lincoln's Birthday holiday
Spring vacation

Last day of classes
Final examinations
Commencement

Monday, January 17
Friday, February 11
Saturday, March 12, 12:00 noon-
Monday, March 21, 8:00 A.M.
Monday, May 2
Wednesday, May 4-Friday, May 13
Saturday, May 14

Summer Session, 1983

Classes begin
Independence Day holiday
Final Examinations
Commencement

Monday, June 13
Monday, July 4
Tuesday, August 2-Friday, August 5
Saturday, August 6



University General Information

History

The Southern Illinois University System is a senior public university system comprising two diverse institutions—Southern Illinois University at Carbondale and Southern Illinois University at Edwardsville—and serving approximately 33,000 students.

Chartered in 1869, Southern Illinois Normal University served as a teacher-training institution until 1943, when the school was transformed into a university, giving official recognition to the area's demand for diversified training and service. SINU became Southern Illinois University in 1947, and in 1949 began offering off-campus academic courses in the Metropolitan East St. Louis area, an initiative which led to the eventual development of a separate, distinctive institution in Edwardsville.

The mission and scope of The Southern Illinois University System are highly complex and emphasize a commitment to fine quality in education. As the Southern Illinois University System has grown and flourished, its constituent universities have developed programs of instruction, research, and public service which have attracted and served students, faculty, and staff not only from the region but from throughout the state of Illinois, the nation, and from overseas as well.

The universities within the Southern Illinois University System offer a broad range of academic programs at the associate, baccalaureate, master's, doctoral, and professional levels. In addition to the many undergraduate degree programs offered, the system supports more than sixty academic programs which lead to the master's degree and twenty-two which lead to the doctorate. The professional schools are designed to provide first-rank health and legal graduates trained to meet the particular needs of the people of Illinois. Southern Illinois University at Carbondale operates a School of Law in Carbondale and a School of Medicine headquartered in Springfield, the first year of which is offered in Carbondale; Southern Illinois University at Edwardsville operates a school of nursing in Edwardsville and a School of Dental Medicine in Alton. More than 6,000 of the 33,000 students currently enrolled are in graduate and professional programs.

The instructional, research, and service missions of the two universities reflect the needs of the geographic areas in which they are located. The system is also committed to serving state, national, and international needs, a commitment reflected in educational activities located away from the main campuses in communities throughout the state and nation. Countries throughout the world experience this commitment through research and training exchanges and student exchange programs.

The Southern Illinois University System is governed by a nine-member board of trustees, which sets policy that enables the institutions to carry out

established objectives. The chancellor of the Southern Illinois University System is the chief executive officer of the system and is the primary link between the universities and the Board of Trustees. The university presidents report directly to the chancellor and are responsible for the internal operations of their institutions.

Location

The city of Carbondale is approximately 100 miles southeast of Saint Louis, Missouri, in Jackson County, the western border of which is the Mississippi River. Some of the most rugged and picturesque terrain in Illinois lies south of Carbondale. Sixty miles to the south is the historic confluence of the Ohio and Mississippi rivers; the two rivers form the border of the southern tip of Little Egypt, the name given to the 14 southernmost counties in Illinois. The region immediately surrounding Carbondale is noted for its large peach and apple orchards. Two state parks and four lakes are located within 10 miles of the campus and much of the area is a part of the Shawnee National Forest.

Campus

The University campus, comprising more than 3,290 acres immediately south of the city of Carbondale, includes a 981-acre developed portion with woods and a lake as a site for academic buildings and residence halls. The buildings are located in wooded tracts along two circular shaped campus drives, named for Lincoln and Douglas. Two beautiful features, located near the center of the campus, are a wooded tract preserved in the tradition of native forests of Southern Illinois and several buildings which formed the original campus a century ago. Approximately seventy-five permanent buildings and several hundred temporary buildings are located on the campus.



1 School of Law

In May, 1971, the Illinois Board of Higher Education published Phase III of its study, A Master Plan for Higher Education in Illinois. It was therein stated that a new law school "should be opened at Southern Illinois University in Carbondale as soon as appropriate planning, approval, and funding can be achieved." The University, which has main campuses at Carbondale and Edwardsville and which was aware of the need for more good law schools and particularly for a school in its region, immediately took steps to make the school a reality. An appropriation for this purpose was secured from the Illinois legislature in June, 1972, and shortly thereafter Hiram H. Lesar, then dean of the School of Law at Washington University, was employed as the first dean of the new school. The nucleus of an able faculty, experienced in practice and teaching, was recruited, and a first-year class was accepted to begin study in September, 1973.

Purposes

The main purpose of the School of Law is to train lawyers who will be competent to practice law now and in the future. In addition to specific legal rules, the student must learn analytic skills, research techniques, and the basic legal principles and policies underlying the current applications of those rules. He or she should also learn the basic skills of advocacy, counseling, and negotiation.

The second purpose of the School of Law stems from recognition of the social fact that lawyers are expected to provide a large part of the leadership in a wide spectrum of American life. In general terms this means that lawyers must perform two functions which go beyond rendering competent legal service. They must be prepared to serve in a "watch-dog" capacity with respect to the proper functioning of American institutions, and they must be prepared to participate in "making law." Of course, the lawyer-legislator "makes" law, but so does the member of the important bar association committee charged with responsibility for drafting proposed legislation.

The second purpose of the school, then, is to assure that the leadership function performed by lawyers is carried out well. For this purpose the lawyer requires not only the whole range of skills and knowledge needed for the practice of law, but also an understanding of our institutions and a sensitivity to potential conflict areas. Two things are essential to carrying out objectives of such breadth: a curriculum which balances the course offerings as carefully as possible so that neither purpose is sacrificed to the other, and a faculty with unusual breadth of knowledge and vision to formulate that curriculum and with an extraordinary ability to implement it, both within and without the classroom.

The third purpose of the school—which is essential to the fulfillment of the other two—is to instill in its students a proper conception of the professional responsibilities of the lawyer and the organized bar, an understanding of the nature and role of the legal profession, and knowledge and appreciation of the ethical principles by which all lawyers are bound.

It is the school's position that this kind of training can best be accomplished with a student body numbering from 350 to 450—small enough so that faculty and students may know one another and large enough to justify a faculty of sufficient size to offer all the courses that should be given in a modern law school.

Facilities

The Lesar Law Building is a new and contemporary structure situated on the western edge of the campus near the lake. The building houses classrooms, student lounges, administrative and faculty offices, and the library, as well as a courtroom and large in-house clinic facilities.

Library

The law library provides those resources for research needed by a high quality faculty and student community. The new law building includes a 41,000-square-foot library that houses the collection, study spaces, and staff. An extensive menu of services, ranging from expert legal reference to computer-assisted information retrieval, is offered to the law school community.

Law books and law-related information accessible through other media, such as videotapes, microform, or computers, are the core of the law library. From a starter collection of 20,000 volumes contributed by SIUC's Morris Library in 1973, the law library has grown rapidly to more than 200,000 volumes—a collection larger than those of over half the academic law libraries in the country. This mature resource includes as part of that volume count 242,230 pieces of microform, the equivalent of 82,716 physical books. Because the student body is small, the duplication of titles has been minimal; consequently the collection is richer in variety of titles than those of most law libraries of similar size.

Not so easily quantifiable are the library's computer-assisted research systems (LEXIS and Westlaw), its computer-assisted instruction system (PLATO), and its computer-assisted library technical processes. These are important to the description of a contemporary law school library because they are an indication of its ability to provide information in nontraditional ways—ways that are sometimes more efficient, more accurate, or more responsive to user needs. The law library at SIUC has consistently been a pioneer in using technology to improve library services.

The library collection includes an almost complete inventory of primary American legal sources, state and federal, and substantial holdings in English, Canadian, and international law. A strong retrospective collection of legal journals has been developed as well, and the library subscribes to approximately 1,130 current legal journals and newsletters. The collection of state legal materials, which includes a set of annotated statutes, the appellate judicial opinions, and all published regulations for each of the fifty states, is an important reason why this law library has become a truly regional resource. The law library maintains subscriptions to looseleaf and other current awareness services supporting all major curricular and research efforts of the law school.

A variety of sophisticated indices, including a superior card catalog and the interpretive services of law-trained librarians, provides access to the fully-

cataloged and classified collection. The library has been a selective government depository library since 1978, and the extensive array of government publications received is fully integrated into the cataloged collection and available to both the law-school community and the public.

The physical features of the law library combine a serene decor with an eminently functional arrangement. Ample seating at both carrels and tables is provided for library users. The relationship of library service centers to library users and to the collection is a model for efficient and immediate access to library services.

The resources of over 1,650,000 volumes in the University library are readily available also to law students, to supplement the strong, well-staffed law school library.

Accreditation

The SIUC School of Law has been fully accredited by the American Bar Association and is a member of the Association of American Law Schools.



Curriculum

FIRST YEAR

The first-year curriculum is required. It differs from the first-year curriculum in many, if not most, schools in that first-year legal writing and reasoning is taught in small sections of no more than 20 students by full-time faculty members.

<i>First Semester</i>		<i>Second Semester</i>	
<i>Course</i>	<i>Hours</i>	<i>Course</i>	<i>Hours</i>
Contracts I	3	Contracts II	3
Property I	3	Property II	3
Torts I	3	Torts II	2
History of Procedure	2	Civil Procedure I	3
Legal Research I: Sources and Methodology	1	Criminal Law	3
Legal Writing and Reasoning	2	Legal Argumentation	2

SECOND AND THIRD YEARS

The curriculum for the second and third years is being revised to conform with the first-year schedule. The revised curriculum is meant to be in place by the 1983-84 academic year. The rules that follow pertain to the second and third years as they now stand; they may or may not be changed in the revision process. Constitutional Law I, Legal Research II, The Legal Profession, and the Senior Writing Seminar have been required courses.

A Senior Writing Seminar requires a paper of the quality of a law journal comment. *SIUC Law Journal* members have not been required to take a seminar, since the law journal work is of equivalent stature.

Up to 6 semester hours of credit for course work taken in the Graduate School may be applied, with permission of the deans of both the Graduate School and the School of Law, toward the number of hours required for the J.D. degree and toward the residence semester requirement. A student must earn a grade of *B* or better in such work for School of Law credit to be given, but this letter grade will not be reflected on a student's School of Law record, nor will it be used to compute the law grade-point average.

The combined total of course work permitted in each of the areas of clinical law, moot court competition, and law review may not exceed 6 semester hours.

A list of second- and third-year courses offered during the 1982-83 academic year follows. Although it is expected that most, if not all, of them will be continued after the revision, there may be different credit hours, semester sequencing, etc.

Course	Hours	Course	Hours
Administrative Law	3	Independent Research and Writing	1-3
Aging and the Law	3	Insurance	3
Agricultural Law	2	International Law	3
Antitrust	3	Juvenile Justice System	2
Advanced Moot Court* (see p. 6)	1-4	Labor Law I	2
Agency and Partnership	3	Labor Law II	2
Client Interviewing and Counseling*	2	Land Use Planning	3
Commercial Law II	4	Law Journal*	1-6
Conflict of Laws	3	Legal Clinic* (see p.12)	1-6
Constitutional Law I	4	Legal Research II	1
Consumer Protection	3	Legislation	3
Corporations	3	Mental Health Law	2
Corrections	3	Mining Law	3
Creditors' Rights	3	Problems in Probate Administration	3
Criminal Justice Administration	4	Procedure II	3
Environmental Policy and Pollution Control	3	Real Estate Finance and Development	3
Estate and Gift Taxation	3	Remedies	3
Estate Planning	3	Securities Regulation	3
Evidence	4	Sports Law	2
Family Law	3	State and Local Government Law	3
Federal Income Taxation	3	The Legal Profession	2
Federal Income Taxation of Business Enterprises	3	Transnational Business Transactions	3
First Amendment Rights	3	Trial Advocacy*	3
Future Interests	3	Trusts and Estates	4
Graduate Courses	up to 6		

*Enrollment Limited

In addition, the following courses have been offered in past years:

Admiralty Law	3	Higher Education Law	3
Anglo-American Legal History	3	Jurisprudence	3
Deceptive Trade Practices	2	Oil and Gas Law	3
Drafting Legal Instruments	3	Preservation of Environmental Amenities	2
Economic Regulation of Business	3	Special Tax Problems	2-3
Energy Regulation	3	Water Law	3
Federal Courts	3		

Senior Writing Seminars being offered during the 1982-83 academic year are as follows:

Natural Resources Law	Property Law Problems
Products Liability	Tax Policy

In previous years, topics have included the following:

Business Law	Criminal Justice
Civil Procedure	International Human Rights
Constitutional Law	

The law school offers a separate summer school program with courses established each year on an ad hoc basis.

Admission

To be admitted as a candidate for the Juris Doctor degree, an applicant must have received a bachelor's degree or the equivalent and must have demonstrated capacity for the study of law by a satisfactory undergraduate record and satisfactory performance on the Law School Admission Test (LSAT). Forms for applying for admission may be obtained from the Office of Admissions, School of Law, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

The LSAT is administered on a nationwide basis by the Law School Admission Services, Box 2000, Newtown, PA 18940, and is offered on the SIUC campus four times each year. The test administration dates no later than October or December of the applicant's final year of undergraduate study are preferred.

Applicants must also register with the Law School Data Assembly Service (LSDAS) by completing the form found in the LSAT bulletin of information and returning it to the Law School Admission Services. Applicants must have transcripts sent to LSDAS by the registrar of each college and professional or graduate school attended. Test scores and evaluations of transcripts are reported to applicants and to the law schools they designate. Applicants should indicate on the LSAT/LSDAS matching forms that their scores and evaluations are to be reported to the Southern Illinois University at Carbondale School of Law. It is not necessary that application for admission to the School of Law be made before taking the test or registering with LSDAS.

Applications for admission to the school may be filed any time after September 1, but preference will be given to applicants who file their applications prior to January 1. There is a \$15.00 application fee.

An applicant who is admitted is required to make a security deposit of \$100 by April 1, unless accepted later, when several weeks are allowed. This deposit will be credited against the first semester's tuition and fees.

Admissions are made without regard to race, religion, sex, national origin, age, handicap, or other factors prohibited by law. The law school is expanding its affirmative action program and continues its participation in the Council on Legal Education Opportunity (CLEO) program.

Degree Requirements

A candidate for the Juris Doctor (J.D.) degree must satisfy the the entrance requirements, fulfill the residence requirements, and satisfactorily complete a total of 90 semester hours of work for credit, and must pass all required courses. The required courses currently consist of all first year courses, Constitutional Law, Legal Research II, The Legal Profession, and a Senior Writing Seminar.

RESIDENCE REQUIREMENTS

A candidate must complete six semesters of residence, not less than the last two of which must be in this School of Law. In order to obtain residence credit for a semester, a candidate must examine in a minimum of 12 hours of work and must obtain final credit in a minimum of 10 hours of work. A candidate who either examines in or obtains final credit for fewer than the required minimum hours will be given proportionate residence credit. No credit toward residence is given in courses in which a student receives a failing grade.

LIMITATION OF COURSE HOURS

No student may register for more than 16 hours without the consent of the

dean. It is advisable for students to devote most of their time to their work in the school. Students who undertake substantial employment outside the school should reduce their course loads.

ATTENDANCE AND WITHDRAWAL

Regular attendance is required of each student. An instructor may exclude from any class a student who is unprepared and may, after prior notice, exclude from the final examination in any course any student whom, for reasons of lack of preparation or lack of attendance, the instructor deems unqualified to receive credit in the course. Specific rules regulating attendance and withdrawal from courses are furnished each student before registration.

EXAMINATIONS

A student who has not withdrawn, or been withdrawn, from a course is expected to take the examination for that course at the regularly scheduled time. Unexcused failure to take an examination will result in a failing grade. If failure to take an examination is excused, the student may, with the permission of the dean and the instructor, take the examination after the rest of the class or at the time it is next regularly offered. Withdrawal from a non-required course must be made in accordance with University deadlines.

POOR SCHOLARSHIP RULE

For students who entered law school before fall semester 1982, grades are given in numbers on a scale of 65 to 100, with 75 being the average required for graduation. A student who fails to have a cumulative average of 74 at the end of the first year or 75 at the end of any other academic year will be dropped from the school for poor scholarship.

For students who commence law studies during or after fall semester 1982, grades are given in numbers on a scale of 0.0 to 4.0, with 2.0 being the average required for graduation. A student who fails to have a cumulative average of 1.9 at the end of the first year or 2.0 at the end of any other academic year will be dropped from the school for poor scholarship.

A student whose average at the end of the first year is below 74 under the old grading system or below 1.9 under the new grading system may appeal to the dean, who refers the petition to the Academic Standards Committee to recommend acceptance or denial of a petition for readmission.



Tuition and Fees

Tuition and fees in the School of Law are established by the Board of Trustees and are subject to change whenever conditions make changes necessary. Present tuition and fees for regularly enrolled law students (taking 12 or more semester hours) are \$677.75 per semester for residents and \$1,637.75 per semester for non-residents. Books will cost about \$200 per semester.

Financial Aid

Although the School of Law has limited resources for financial aid at its disposal, there are available, through the school:

1. A number of Dean's Club scholarships, made available through contributions by the school's benefactors.
2. A limited number of research assistantships awarded to members of the second- and third-year classes primarily on a merit basis. Assistantships provide a tuition waiver and a modest monthly salary. These are provided from the school's state-appropriated funds. Assistantships are also awarded to the students who serve as assistants to professors teaching first-year legal writing and legal argumentation.
3. A limited number of work opportunities in the law library and in the administrative offices of the school. These are provided from the school's state-appropriated funds.
4. A limited number of cash grants awarded from the school's activities funds derived from various sources, including application fees.

Specific instructions for applying for financial aid are mailed during the summer to entering students who indicate in their admission applications that they are interested in financial aid.

The University maintains an Office of Student Work and Financial Assistance through which work on campus, cooperative work-study programs, the federal work-study program, various veterans benefits (both state and federal), tuition remission scholarships, and student loans may be negotiated. For more specific information, students may contact the Office of Student Work and Financial Assistance, Woody Hall, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

SCHOLARSHIPS AND AWARDS

1. James O. Monroe Award. The income from an endowment fund established by the Madison County Bar Association in memory of the late judge is awarded annually to a student who has demonstrated excellence in legal research and writing.
2. John S. Rendleman Award. One hundred dollars is awarded to the "outstanding" senior selected by the seniors. Mr. Rendleman held several administrative positions at Southern Illinois University, including that of president of the Edwardsville campus.
3. Max Turner Memorial Scholarship Award. The fund was established in memory of Professor Max W. Turner, a political science professor and member of a group which planned a law school at SIU. Awarded to a student who has demonstrated integrity and distinguished scholastic achievement.
4. Hiram H. Lesar Scholarship Award. The income from an endowment fund established by Dean Hopson to honor the first dean of the law school is awarded to students who have demonstrated integrity and distinguished scholastic achievement.
5. W. Philo Gilbert Memorial Scholarship Award. A scholarship fund established in memory of a prominent Carbondale attorney and friend of the

law school. Awarded to a student who has demonstrated integrity and distinguished scholastic achievement.

6. Fahy and Cheney Award. Established by the Rockford labor law firm and given to the best student in the fall labor law course.
7. Illinois Bar Foundation Research Fellow. A grant to a third-year law student, selected by the school, to assist a professor with a research project.
8. American Bar Association Section of Urban, State and Local Government Award. A book award to one senior who excelled in courses on Land Use Law and to one senior who excelled in Local Government or Municipal Corporation Law.
9. Bureau of National Affairs *Law Week* Award. A year's subscription to *Law Week* to the graduating senior who has made the most satisfactory progress in his or her final year.
10. Matthew Bender Award. A textbook award to a senior who has excelled in natural resources law.
11. Prentice-Hall Tax Award. A plaque awarded to a senior who has done outstanding work in tax courses.
12. West Publishing Company Awards. *Corpus Juris Secundum* volumes and *Hornbooks* are awarded to freshmen, juniors, and seniors for significant legal scholarship or the highest scholastic averages in class.
13. Lawyers Co-op Publishing Company Awards. *American Jurisprudence* volumes are awarded to the top students in selected courses.

There are also state and national essay competitions on legal subjects, and scholarships are available to law students at any school from a variety of organizations. Information about these opportunities is available in the law school.

Housing

University on-campus housing is available for 4,700 single students and 576 married students. Two newly-remodeled residence halls across the street from the law school are reserved for law student single-room occupancy, and several apartments in married student housing are reserved for law students. Off-campus housing is readily available. Inquiries concerning other on-campus or off-campus housing may be obtained from University Housing, Washington Square, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Honor Code

"The cornerstone of our legal system is the integrity of the individual lawyer." Preparation for law, therefore, must encourage individual integrity as well as understanding of law. The essence of an honor system is the observance by each student of high ethical standards of conduct. The system yields immediate tangible advantages of convenience—examinations are not supervised, a student's word is accepted as the truth, and ownership of personal belongings is respected; it yields also lasting intangible values of the spirit—those who have lived under an honor code are forever dissatisfied with any less rigorous standards. Students of the school have adopted an honor code and elected an ethics council to enforce it. Copies of the code, as amended, will be sent to applicants on request and are distributed to all freshmen at orientation.

Legal Aid Clinics

The school operates a prison legal aid clinic, an externship program, an aid to the elderly program, and a juvenile justice program. The clinics provide selected students with a number of internships and research assistantships. Other students may obtain credit. The work with prison inmates, with the

Land of Lincoln program for indigent persons, with the public defender and appellate public defender programs, with the elderly and with youthful offenders, as well as with other selected programs, gives students an unusual opportunity for variety in the clinic experience. Civil as well as criminal problems are encountered. Clinic credit may not be given before a student's fourth semester, and a student may not register for more than three hours of credit before obtaining a student (711) license to practice in Illinois. Clinic credit must be approved by the law school clinical law committee. The total hours obtainable are limited.

Law Journal

The *Southern Illinois University Law Journal* is a scholarly legal publication which is printed quarterly. The journal is managed and edited by an editorial board, with the published materials supplied by students, law professors, and other members of the legal profession. Work on the journal affords the student intensive training in legal research, analysis, and writing. All students are eligible to write for the journal and earn writing and academic credit for demonstrating superior writing skills. A small percentage of the journal candidates will be invited to be members of the editorial staff of the journal on the basis of grades at the end of the second and third semester. Membership on the editorial board is attained by completion of the writing and administrative requirements. There is an election for the offices of editor-in-chief, managing editor, articles editors, notes and comments editors, and research editors.

The Journal of Legal Medicine, published by the American College of Legal Medicine, presents, on a regular basis, articles written by students at Southern Illinois University School of Law. This arrangement is designed to allow law students who have special interests in law and medicine to pursue those interests through scholarly research and publication.

Legal Argumentation

The legal argumentation program is a comprehensive one. It provides a required experience in appellate practice in the first year. This is followed by an opportunity to participate in regional and national competitions, including the ABA-sponsored National Appellate Advocacy and Client Counseling Competitions, the Jessup International Law Moot Court Competition, the National Trial Competition, and the National Moot Court Competition.

Concurrent Degree Programs

The School of Law, in cooperation with the Graduate School, offers concurrent J.D. and master's degrees in business administration, public affairs, and accountancy. A student must be enrolled in both the graduate program and the law school. The master's programs ordinarily require 30 hours of study, while the law degree requires 90 hours. When the master's and J.D. degrees are pursued concurrently, a significant reduction in the total number of hours required to earn both degrees is achieved. Details of the concurrent degree programs are available from the law school registrar, Norma Brown. Students should make their interest in the concurrent degree program known to the registrar after the completion of the first year of law school study.

Research Bureau

The purposes of the research bureau are to furnish high quality service to attorneys while providing paid research and writing experience to law students. Second- and third-year students are eligible for participation in the organization which is administered by a student steering committee with the advice and assistance of a faculty adviser.



Student Organizations

The student body has drafted and adopted a constitution and by-laws for the Student Bar Association of which every regular law school student is a member. The association functions primarily through officers and committees elected by the membership at large and plays an integral role in the operation and governance of the law school. The students who serve as representatives to the faculty meetings are elected by the students, and those who serve on the various faculty committees are appointed by the dean from a list submitted by the president of the Student Bar Association.

Other student organizations are Phi Alpha Delta, the Donald F. McHenry International Law Society, the Women's Law Union, the National Lawyers Guild, the Black American Law Students Association, the Christian Legal Society, and law student divisions of the Illinois State Bar Association and the American Bar Association.

Placement Services

A full range of placement services is offered to students and alumni including current job listings, on-campus interviews with prospective employers, and resume assistance. Students are encouraged to begin career planning early in their law school years and to seek summer and part-time legal employment experience. The placement office will make every effort to help students identify and pursue employment opportunities.

The School of Law is firmly committed to a policy against discrimination in employment based on sex, race, religion, age, handicap, or national origin, and we expect that all employers who use our placement services will make certain that no such discrimination occurs.

Of the sixty-six members of the class of 1981, fifty-five had notified the Placement Office by February, 1982, that they were employed, at salaries ranging from \$12,000 to \$27,000.

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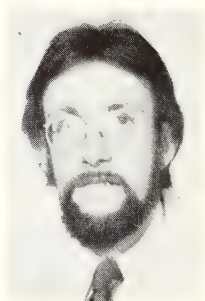
Faculty and Staff

Faculty

W. EUGENE BASANTA, B.A., J.D., LL.M.

Assistant Professor of Law

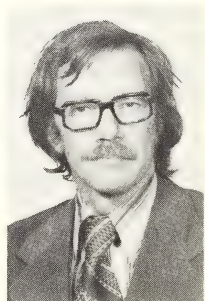
B.A. Cum Laude 1972, Williams College, Phi Beta Kappa; J.D. with High Distinction 1975, University of Kentucky, Order of the Coif, Law Review; LL.M. 1980, Temple University. Admitted to practice in Kentucky. Law clerk, Fayette County Circuit Court, 1974-75; private practice, Louisville, 1975-78; assistant professor at SIUC School of Law since 1980.



ROBERT E. BECK, B.S.L., LL.B., LL.M.

Professor of Law

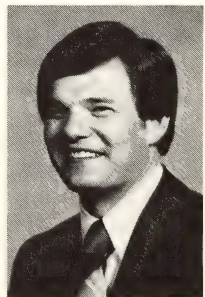
B.S.L. 1958, University of Minnesota; LL.B. 1960, University of Minnesota; LL.M. 1966, New York University. Admitted to practice in Minnesota. Private practice 1960-62; assistant professor, University of North Dakota, 1962-65; visiting associate professor, University of Maine, 1965-66; associate professor, 1966-68, professor, 1968-75, Chester Fritz Distinguished Professor, 1975-76, University of North Dakota; professor at SIUC School of Law since 1976. Author of *Drainage Law, 5 Waters and Water Rights* (R. Clark ed. 1967, 1972, 1976), and articles in legal publications. On leave spring semester 1983.



KEITH H. BEYLER, A.B., J.D.

Assistant Professor of Law

A.B. Magna Cum Laude 1969, Princeton University, Phi Beta Kappa; J.D. Cum Laude 1974, University of Chicago, Order of the Coif, Law Review. Admitted to practice in California. Law clerk, Justice James A. Cobey, California Court of Appeals, 9th Cir., 1974-75; private practice, Los Angeles, 1975-82; assistant professor at SIUC School of Law since 1982.



ISAAK I. DORE, LL.B., LL.M., LL.M., J.S.D.

Associate Professor of Law

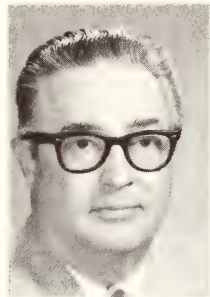
Cambridge School Certificate 1968; LL.B. 1972, LL.M. 1975, University of Zambia; LL.M. 1976, J.S.D. 1978, Yale Law School. Public Prosecutor and Legal Aid Counsel, Republic of Zambia, 1972-73; Staff Development Fellow, University of Zambia, 1972-75; Sterling Fellow, Yale Law School, 1975-77; Institute for the Study of World Politics Fellow, 1977; Human Rights Officer, United Nations Office at Geneva, 1978; assistant professor 1979-82, associate professor at SIUC School of Law since 1982. Author of articles in legal periodicals.



ROBERT H. DREHER, B.A., J.D., D.L.

Associate Professor of Clinical Law

B.A. 1936, University of Texas; J.D. 1940, University of Illinois; D.L. 1973, Oxford. Admitted to practice in Illinois and California. Special Agent, F.B.I., 1940-46; private practice, 1946-67; associate professor, Center for the Study of Crime, Delinquency and Corrections, and Department of Government, SIUC since 1967; associate professor of clinical law and director, clinical program, at SIUC School of Law since 1974.



DARRELL W. DUNHAM, B.A., J.D., LL.M.

Professor of Law

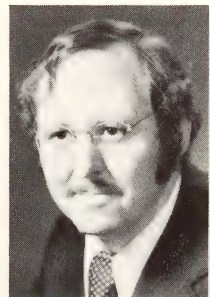
B.A. 1968, J.D. Magna Cum Laude 1971, Willamette University; LL.M. 1972, Harvard Law School. Admitted to practice in Washington. Law clerk, Justice Sloan, Oregon Supreme Court, 1970; associate professor of law, University of Idaho, 1972-75; visiting professor of law, University of South Dakota, 1975-76; visiting professor of law, University of San Diego, Summer 1976; associate professor, 1976-79, professor at SIUC School of Law since 1979. Author of articles in legal periodicals.



DONALD W. GARNER, B.A., J.D.

Professor of Law and Associate Dean

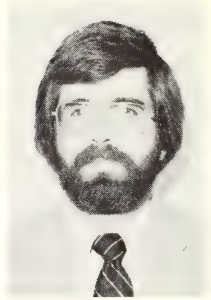
B.A. 1967, University of Texas at Arlington; J.D. Cum Laude 1971, University of Texas at Austin, Chancellors Honorary Society, Order of the Coif, Phi Delta Phi, Law Review. Admitted to practice in Texas. Briefing attorney to Chief Justice, Texas Supreme Court, 1971-72; private practice, Dallas 1972-74; assistant professor, 1974-77, associate professor, 1977-80, professor since 1980, associate dean at SIUC School of Law since 1981. Faculty advisor, Illinois Judicial Conference, 1976; Amoco Outstanding Teacher Award, 1976. Visiting professor, University of Arkansas School of Law, 1980-81. Author of articles in legal periodicals.



C. PETER GOPLERUD III, B.A., J.D.

Associate Professor of Law

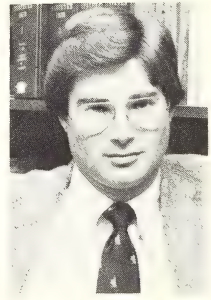
B.A. 1971, University of Kansas; J.D. 1974, University of Kansas. Research attorney, Supreme Court of Kansas, 1974-77; assistant professor, University of Akron, 1977-81; associate professor at SIUC School of Law since 1981. Author of articles in legal periodicals.



MYRON C. GRAUER, B.A., J.D., LL.M.

Assistant Professor of Law

B.A. Cum Laude 1971, University of Vermont, Phi Beta Kappa; J.D. Cum Laude 1975, University of Pittsburgh, Order of the Coif, Law Review; LL.M. 1980, Yale Law School. Admitted to practice in Pennsylvania and the District of Columbia. Private practice, Washington, D.C., 1975-78, and Pittsburgh, 1978-79. Assistant professor at SIUC School of Law since 1980.



RICHARD A. GREEN, B.A., J.D.

Adjunct Professor of Law

B.A. 1968, Southern Illinois University at Carbondale; J.D. 1972, University of Illinois. Admitted to practice in Illinois. In private practice 1972-present. Adjunct professor of law at SIUC School of Law, 1976. Assistant team leader, National Institute of Trial Advocacy, 1979-80. Adjunct professor of law at SIUC School of Law since 1980.



WILLIAM A. GREGORY, B.A., M.A., J.D.

Professor of Law

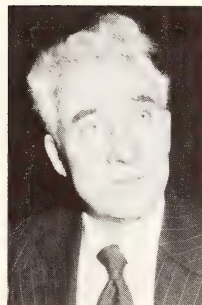
B.A. Cum Laude 1965, Case Western Reserve University; M.A. (History) 1966, University of Michigan; J.D. 1969, Harvard Law School. Admitted to practice in California. Private practice, Los Angeles, 1969-71; corporate practice, Los Angeles, 1971-73; assistant, then associate, professor of law, University of Tulsa, 1973-78; Paul E. Casseb visiting professor, St. Mary's University, 1976-77; associate professor, 1978, professor at SIUC School of Law since 1979. Author of *Law of Agency and Partnership* (with Harold G. Reuschlein, West Publishing Company) and of articles in legal periodicals.



HAROLD W. HANNAH, B.S., J.D.

Adjunct Professor of Law

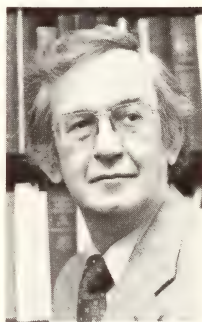
B.S. 1932, J.D. 1935, University of Illinois. Director, Division of Special Services for War Veterans, 1945-47; associate professor, agricultural law and administration, University of Illinois, 1935-41 and 1947-54; dean of resident instruction, College of Agriculture, 1954-59; group leader of contract team in India, 1955-57; professor of agriculture and veterinary medicine law, University of Illinois, 1959-71; private practice since 1971; lecturer and adjunct professor at SIUC School of Law since 1975. U.S. Army, 1941-45. Author of *Law on the Farm* (MacMillan, 1948); *Law and Court Decisions on Agriculture* (with Krausz, Stipes Publishing Co., 1968); *Law for the Veterinarian and Livestock Owner* (Interstate, 1974); *Resource Book for Universities in Developing Countries* (University of Illinois Press, 1966); *The Legal Base for Universities in Developing Countries* (with Caughey, University of Illinois Press, 1967); *Law and the Farmer* (revision of Buescher, Springer Publishing Company 1975), and articles in legal periodicals.



DAN HOPSON, A.B., LL.B., LL.M.

Professor of Law and Dean

A.B. 1951, Phi Beta Kappa, LL.B. 1953, University of Kansas, Order of the Coif, Law Review; LL.M. 1954, Yale Law School; 1954-55, Cambridge University, England. Assistant professor, 1955-59, assistant dean, 1957-59, associate professor, 1959-63, University of Kansas School of Law; research associate, Yale Law School, 1959-60; professor of law, University of Kansas, 1963-67; professor of law, Indiana University 1967-80; associate dean of the faculties, Indiana University, Bloomington, 1974-78; dean and professor of law at SIUC School of Law since 1980. Author of *Lawyers and Their Work* (with Quintin Johnstone, Bobbs-Merrill, 1967); *Economics of Indiana Law Practice* (with James H. Grund, Indiana Bar Association, 1971), and of articles in legal periodicals.



DAVID C. JOHNSON, B.S., C.P.A., J.D., LL.M.

Professor of Law

B.S. 1959, C.P.A. 1959, J.D., 1961, University of North Dakota, Order of the Coif, Editor-in-Chief of Law Review; LL.M. 1964, University of Pennsylvania. Admitted to practice in North Dakota and Georgia. U.S. Army Captain, 1961-63. Graduate fellow 1964, University of Pennsylvania; assistant professor 1964-67, associate professor 1967-70, professor 1970-71, Emory University; visiting professor 1971-72, professor 1972-75, University of Oklahoma; professor since 1975, associate dean at SIUC School of Law, 1977-81. Author of *Georgia Landlord and Tenant Law* (*Encyclopedia of Georgia Law*, 1968), and of articles in legal periodicals.



ELIZABETH S. KELLY, B.A., J.D.

Assistant Professor of Law and Library Director

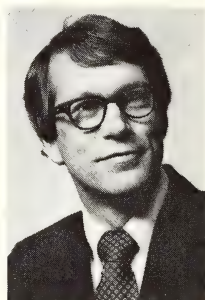
B.A. 1958, College of St. Catherine; J.D. 1978, Southern Illinois University. Academic library experience, 1958-73; technical services librarian, 1973-75, reader services librarian, 1975-77, acting law librarian, 1978, librarian and assistant professor at SIUC School of Law since 1978.



PATRICK J. KELLEY, B.A., J.D.

Associate Professor of Law

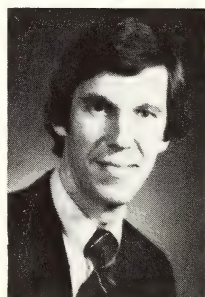
B.A. 1965, University of Notre Dame, Valedictorian; graduate study 1965-66, Stanford University; J.D. 1969, University of Iowa, Editor-in-Chief of Law Review. Private practice, Chicago, 1969-71; assistant professor, 1971-75, associate professor, 1975-79, Washington University; Fellowship in Law and Humanities, Harvard Law School, 1976-77; private practice, St. Louis, 1979-81; associate professor at SIUC School of Law since 1981. Author of articles in legal periodicals.



EDWARD J. KIONKA, B.S., J.D., LL.M.

Professor of Law

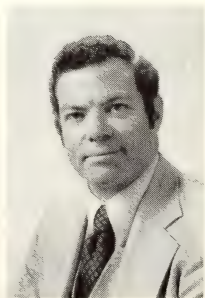
B.S. 1960, J.D. 1962, University of Illinois, Order of the Coif, Law Review; LL.M. 1974, Columbia University. Admitted to practice in Illinois and Missouri. Private practice 1962-64, 1971-72, 1975-76. Lt. Cdr., USNR. Teaching associate, Columbia University, fall 1962; instructor in law, University of Michigan, 1964-65; director, Illinois Institute for Continuing Legal Education, 1965-67; assistant dean and assistant professor of law, University of Illinois, 1967-71; special counsel, General Government Committee, Sixth Illinois Constitutional Convention, 1970; Krulewitch Fellow, Columbia University, 1972-73; associate professor, 1973-75, 1976-77, adjunct professor, 1975-76, professor at SIUC School of Law since 1977; visiting professor, Washington University, 1979-80. Author of *Torts in a Nutshell*; *Injuries to Persons and Property*, and of articles in legal periodicals. Editor of *Illinois Civil Practice After Trial* (Illinois Institute for Continuing Legal Education, 1970, 1976).



MARK R. LEE, B.A., J.D.

Associate Professor of Law

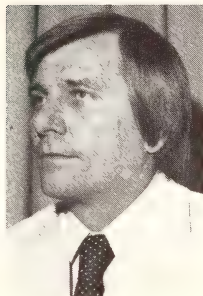
B.A. 1971, Yale University; J.D. 1974, University of Texas, Austin. Admitted to practice in Texas. Assistant attorney general, Austin, Texas, 1974-75; attorney, Department of Justice, Washington, D.C., 1975-76; instructor, University of Miami, 1976-77; assistant professor 1977-81; associate professor at SIUC School of Law since 1981. Author of articles in legal periodicals.



BRIAN E. MATTIS, B.S.B.A., J.D., LL.M.

Professor of Law

B.S.B.A. 1960, University of Florida; J.D. 1968, University of Miami; LL.M. 1969, Yale. Admitted to practice in Florida. Sterling Fellow, Yale, 1968-69; associate professor 1969-72, professor 1972-74, University of Nebraska; professor at SIUC School of law since 1974. Summer: University of Nebraska, 1970, 1972, 1973. Author of articles in legal publications. On leave, 1982-83.



TAYLOR MATTIS, B.A., J.D., LL.M.

Professor of Law

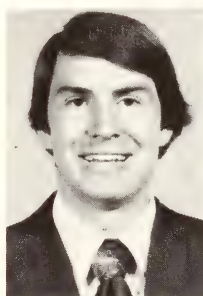
B.A. 1960, University of Alabama, Phi Beta Kappa; J.D. Cum Laude, 1963, University of Miami, Wig and Robe, Law Review; LL.M. 1969, Yale. Admitted to practice in Florida, Nebraska, and Illinois. Private practice, Ft. Lauderdale, 1963-66; law clerk, U.S. District Judge Emmett Choate, 1966-68; Sterling Fellow, Yale, 1968-69; attorney, Nebraska Appellate Justice Project, 1972-74; associate professor, 1974-77, professor at SIUC School of Law since 1977. Author of articles in legal periodicals.



THOMAS B. McAFFEE, B.S., J.D.

Assistant Professor of Law

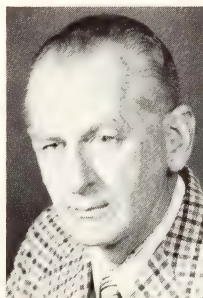
B.S. 1976, Phi Beta Kappa, J.D. 1979, University of Utah, Phi Kappa Phi, Order of the Coif, Law Review. Admitted to practice in California. Law clerk, Justice J. Clifford Wallace, California Court of Appeals, 9th Cir., 1979-80; private practice, California, 1980-82; assistant professor at SIUC School of Law since 1982.



THOMAS G. ROADY, JR., A.B., M.A., J.D.

Professor of Law

A.B. 1940, M.A. 1949, J.D. 1948, University of Illinois. Admitted to practice in Illinois and Tennessee. AUS-AC, 1942-46, Maj.; Lt. Col., U.S.A.F. Res. University Fellow, Columbia University, 1948-49; assistant professor 1949-50, associate professor 1950-51, professor 1951-52, University of Tennessee; associate professor and assistant dean, Washington University, 1952-53; private practice in Illinois 1952-56; visiting professor, University of Missouri, 1954; professor, Vanderbilt University, 1956-68; professor, University of Tennessee, 1968-73; associate dean 1973-77, professor at SIUC School of Law since 1973. Editor of *Professional Negligence* (with Andersen, 1960); *Essays on Procedures and Evidence* (with Covington, 1961); *Selected Problems in the Law of Corporate Practice* (with Andersen, 1960). Author of articles in legal periodicals.



RALPH JOHN ROBERTSON, JR., A.B., J.D.

Assistant Professor of Law

A.B. with honors 1973, J.D. Cum Laude 1976, University of Missouri, Order of the Coif, Editor-in-Chief of Law Review. Admitted to practice in Missouri. Staff law clerk, U.S. Court of Appeals, 8th Cir., 1976-79; private practice, St. Louis, 1979-82; assistant professor at SIUC School of Law since 1982. Author of articles in legal periodicals.



ROBERT H. SKILTON, A.B., M.A., LL.B., Ph.D.

Visiting Professor of Law

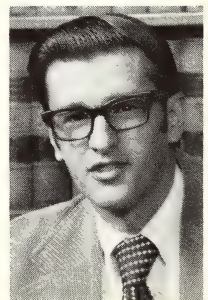
A.B. 1930, M.A. 1931, LL.B. 1934, Order of the Coif, Law Review, Ph.D. 1943, University of Pennsylvania. Admitted to practice in Pennsylvania and Wisconsin. Private practice, 1934-37; instructor, then associate professor, 1937-53, Wharton School, University of Pennsylvania; associate professor, then professor, Law School, University of Wisconsin, 1953-76, professor emeritus since 1976; distinguished visiting professor, SIUC School of Law, spring, 1976; distinguished visiting professor, McGeorge School of Law, 1977-78; visiting professor, SIUC School of Law, 1978-79, second semester 1979-80 and 1980-81. Author of *Government and the Mortgage Debtor* (1944), *Industrial Discipline and the Arbitration Process* (1952), and of numerous articles in the field of commercial law and on other subjects.



NORMAN VIEIRA, A.B., J.D.

Professor of Law

A.B. 1959, Columbia University; J.D. 1962 University of Chicago, Board of Editors of Law Review. Admitted to practice in Illinois and before U.S. Supreme Court. Law clerk, Justice Walter V. Schaefer, Illinois Supreme Court, 1963-65; professor, University of Idaho, 1965-82; visiting professor, UCLA, 1970-71; professor of law at SIUC School of Law since 1982. Author of *Civil Rights in a Nutshell* (West Publishing Co.) and of articles in legal periodicals.



EDWARD L. WELCH, B.S., J.D.

Adjunct Professor of Law

B.S. 1957, St. Louis University; J.D. 1960, Washington University. In private practice, East St. Louis and Edwardsville. Labor attorney with Allis-Chalmers and National Labor Relations Board, 1960-67; lecturer and adjunct professor of law at SIUC School of Law since 1973.



WENONA Y. WHITFIELD, B.A., J.D.

Assistant Professor of Law

B.A. 1970, Illinois Wesleyan University; graduate study, 1970-72, J.D. 1977, SIUC. Private practice, Chicago, 1977-80; Illinois Department of Mental Health, 1980-81; assistant professor at SIUC School of Law since 1981.



Clinical Law Program

ROBERT H. DREHER, B.A., J.D., D.L.,

Associate Professor of Clinical Law and Director

RICHARD J. HABIGER, B.A., J.D.

Staff Attorney

B.A. 1963, Rockhurst College; J.D. 1970, University of Missouri at Kansas City. Admitted to practice in Missouri and Illinois. Reginald Heber Smith Fellow, Legal Aid and Defender's Society of Kansas City, 1970-72; National Juvenile Law Center, St. Louis University, 1972-75. Staff Attorney, Clinical Law Program, SIUC School of Law since 1975. Author of *Law and Tactics in Juvenile Cases* (with Evans, North, Piersma, Schiller & Spiller, National Juvenile Law Center, 2nd ed. 1975), and of articles in legal periodicals.



Law Library Staff

ELIZABETH W. MATTHEWS, B.A., M.S., Ph.D.

Associate Professor in the Law Library and Librarian for Cataloging

B.A. 1948, Randolph Macon College; M.S.(L.S.) 1952, University of Illinois, Beta Phi Mu; Ph.D. 1972, SIUC, Phi Kappa Phi. Library assistant in catalog/acquisitions, 1948-51; catalog librarian, Ohio State University, 1948-51; visiting lecturer, University of Illinois, 1964; instructor, SIUC, 1967-70; catalog librarian/assistant professor, 1974-79, catalog librarian/associate professor at SIUC Law Library since 1979.



ELIZABETH ANN PUCKETT, B.S., M.S., J.D.

Assistant Professor in the Law Library and Librarian for Reader Services

B.S. 1964, Eastern Illinois University; M.S.(L.S.) 1977, J.D. 1977, University of Illinois. Certified Law Librarian. Law firm librarian, 1977; acquisitions/reader services librarian, University of Kansas, 1977-78; assistant reader services librarian/assistant professor 1978-82, reader services librarian at SIUC Law Library since 1982.



HEIJA B. RYOO, B.B.A., M.L.S.

Instructor in the Law Library and Librarian for Acquisitions

B.B.A. 1966, Sook Myung Women's University, Seoul, Korea; M.L.S. 1980, Indiana University. Cataloging/acquisitions assistant, 1971-80, acquisitions librarian/instructor at SIUC Law Library since 1980.



LAUREL ANNE WENDT, B.A., M.L.S., J.D.

Assistant Professor in the Law Library and Librarian for Automation/Research

B.A. 1967, M.L.S. 1968, J.D. 1978, Indiana University. Certified Law Librarian. Librarian, McKendree College, Glen Oaks Community College, 1968-72; reader services librarian/assistant professor 1978-82, automation/research librarian at SIUC Law Library since 1982.



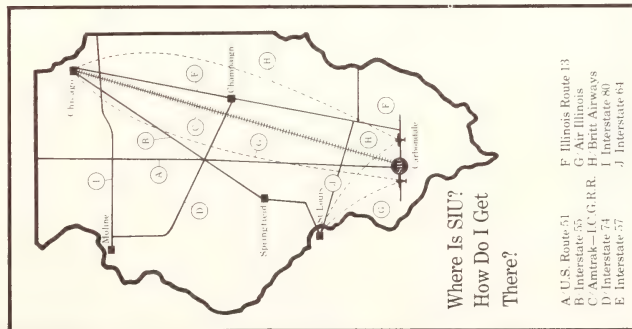
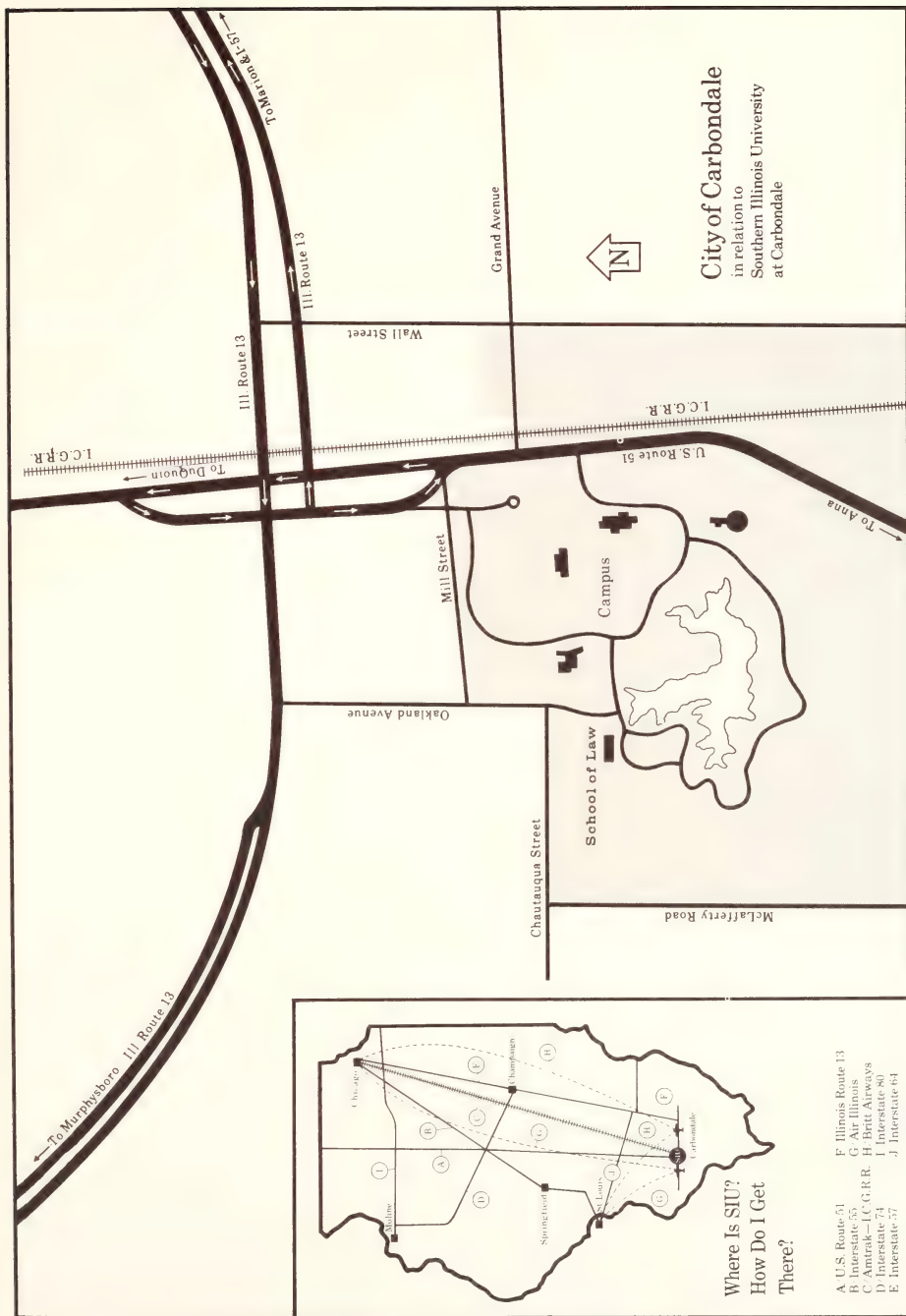
Administrative Staff

NORMA M. BROWN, B.A., *Registrar*

RITA L. MOSS, *Placement Director*

BEULAH M. NEHRING, *Admissions Secretary*

BOBBI M. GREEN, *Secretary to the Dean*

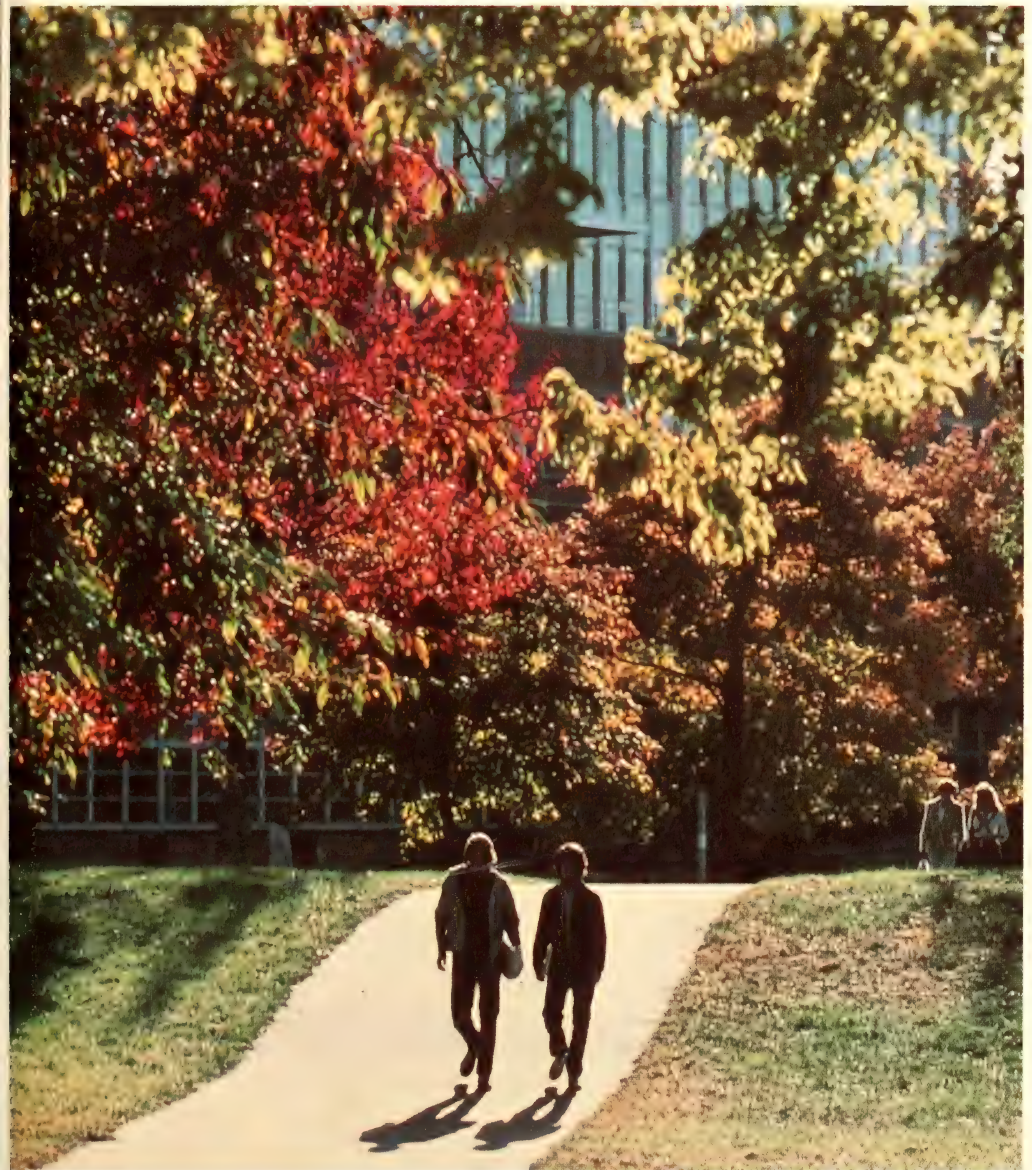


Southern Illinois University
at Carbondale

Bulletin

1983-1984 Undergraduate Catalog

SIU



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Southern Illinois University at Carbondale is an Equal Opportunity/Affirmative Action institution in accordance with Civil Rights legislation and does not discriminate on the basis of race, religion, national origin, sex, age, handicap, or other factors prohibited by law in any of its educational programs, activities, admissions, or employment practices. Concerns regarding this policy should be referred to the Affirmative Action Office, Southern Illinois University at Carbondale, Anthony Hall, Room 104, telephone 536-6618.

This publication provides information about Southern Illinois University at Carbondale. Primary attention is given to its academic program, rules and regulations, and procedures. Students starting their collegiate training during the period of time covered by this catalog (summer 1983 through spring 1984) are subject to the curricular requirements as specified herein. Should these requirements subsequently be changed by the University, students are assured that necessary adjustments will be made so that no additional time is required of them, because of these changes in meeting their educational objectives. Where programs include requirements established by agencies external to the University, every effort will be made to follow this same principle so far as possible. Should subsequent curricular requirements changes work to the students' advantage, they may elect to meet the new requirements rather than those contained herein. This curricular requirement arrangement will extend for a seven calendar year period from date of entry for baccalaureate programs and three years for associate programs. If the students have not met their undergraduate educational objectives by that time, they will then become subject to current curricular requirements. Should the University find it necessary to discontinue an academic program, the effective date, unless otherwise dictated, will be such that the last regularly admitted class will be able to complete the program in regular time sequence. This means four years for baccalaureate and two years for associate programs. The University reserves the right to change information contained herein on matters other than curricular requirements without regard as to their date of entry into college.



Southern
Illinois
University
at Carbondale

Bulletin

1983-1984
Undergraduate
Catalog

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The Undergraduate Catalog covers in detail questions concerning the undergraduate program of Southern Illinois University at Carbondale for the period from summer, 1983 through spring, 1984. It supersedes Volume 23, Number 4.

The following publications, may be obtained free from University Graphics, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Graduate Catalog

Undergraduate Catalog

School of Law Catalog

School of Technical Careers Information

Counselor's Advisement Catalog

General Information for Undergraduates

Schedule of Classes. Please specify session (fall, spring, or summer).

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Board of Trustees and Office of Administration

Board of Trustees of Southern Illinois University

	Term Expires
William R. Norwood, <i>Chairman</i> , Rolling Meadows	1983
A. D. Van Meter, Jr., <i>Vice-Chairman</i> , Springfield	1987
Carol Kimmel, <i>Secretary</i> , Moline	1983
Ivan A. Elliott, Jr., Carmi	1985
Crete B. Harvey, Sterling	1987
Harris Rowe, Jacksonville	1983
George T. Wilkins, Jr., Edwardsville	1985
Stan Irvin, (Student Trustee) Carbondale	1983
John S. Rendleman, (Student Trustee) Edwardsville	1983

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C. Thomas Busch, *Assistant to the President*
Mary Helen Gasser, *Affirmative Action Officer*

University Calendar

Summer Session, 1983

Eight-Week Session Begins
Independence Day Holiday
Final Examinations
Commencement

Monday, June 13, 7:30 A.M.
Monday, July 4
Thursday and Friday, August 4-5
Saturday, August 6

Fall Semester, 1983

Fall Orientation

Monday, August 17 — Sunday, August 21

Semester Classes Begin
Labor Day Holiday
Thanksgiving Vacation

Monday, August 22, 8:00 A.M.
Monday, September 5
Saturday, November 19, 12:00 NOON
— Monday, November 28, 8:00 A.M.
Monday, December 12 — Friday,
December 16

Final Examinations

Spring Semester, 1984

Semester Classes Begin
Lincoln's Birthday Holiday
Spring Vacation

Monday, January 16, 8:00 A.M.
Monday, February 13
Saturday, March 10, 12:00 NOON
— Monday, March 19, 8:00 A.M.
Monday, May 7 — Friday, May 11
Saturday, May 12

Final Examinations
Commencement

Excused Absences for Religious Holidays

Students absent from classes because of required observances of major religious holidays will be excused. It is the student's responsibility to notify the instructor of each class that will be missed in advance of the absence. Students must also take the responsibility for making up work missed.

1 General Information

The University

The Southern Illinois University System

The Southern Illinois University System is a senior, public university system comprised of two diverse institutions, Southern Illinois University at Carbondale and Southern Illinois University at Edwardsville, serving approximately 35,000 students. One of the nation's largest, the Southern Illinois University System had its beginnings in Carbondale and was chartered in 1869 as Southern Illinois Normal University. In 1949, Southern Illinois University began offering off-campus academic courses in the metropolitan East St. Louis area, and this initiative led to the eventual development of a separate, distinctive institution in Edwardsville.

The mission and scope of the Southern Illinois University System is highly complex and emphasizes a commitment to quality education. As the Southern Illinois University System has grown and flourished, its constituent Universities have developed programs of instruction, research, and public service which have attracted and served students, faculty, and staff not only from the region but from throughout the State of Illinois and the nation, and from overseas as well.

The Universities within the Southern Illinois University System offer a broad range of academic programs at the associate, baccalaureate, master's, doctoral, and professional degree levels. In addition to the many undergraduate degree programs offered, the constituent Universities support over sixty academic programs which lead to the master's degree, and twenty-three programs which lead to the doctorate. The professional schools are designed to provide quality health and legal personnel and services to the people of the State of Illinois. Southern Illinois University at Edwardsville operates a School of Nursing in Edwardsville and a School of Dental Medicine in Alton, and Southern Illinois University at Carbondale has a School of Law in Carbondale and a School of Medicine headquartered in Springfield. Of the 35,000 students currently enrolled, more than 6,000 are enrolled in graduate and professional programs.

The instruction, research, and service missions of the two constituent Universities reflect the needs of the geographic areas in which they are located. The System is also committed to serving statewide, national, and international needs. This commitment is reflected in educational activities located off the main campuses in communities throughout the State and the nation. Its presence is also felt in countries other than the United States through research and training exchanges and through worldwide student exchange programs.

The Southern Illinois University System is governed by a nine-member Board of Trustees which sets policy that enables the institutions to carry out established missions and goals. The chancellor of the Southern Illinois University System is the chief executive officer of the system and is the primary link between the

Universities and the Board of Trustees. The University presidents report directly to the chancellor and are responsible for the internal operations of the respective institutions.

Southern Illinois University at Carbondale

One of the two universities comprising the Southern Illinois University System, Southern Illinois University at Carbondale began its life as Southern Illinois Normal University. Southern Illinois Normal University was chartered in 1869 but instruction did not begin until 1874. At first, Southern Illinois Normal University offered two-year programs in teacher training. But in 1904, four-year degree programs were added. The two-year teaching programs were discontinued in the 1930's.

In 1947, Southern Illinois Normal University was transformed into Southern Illinois University in official recognition of the areas demand for diversified training and service. Graduate work was instituted in 1943, and the first Ph.D. degree was granted in 1959. The institution's last name change occurred in 1969 when it became Southern Illinois University at Carbondale.

Today, Southern Illinois University at Carbondale has thirteen instructional units offering degrees at the associate, baccalaureate, graduate, and professional levels, and serves the needs of 23,991 students (Fall, 1981).

Location

The city of Carbondale is approximately 100 miles southeast of St. Louis, 330 miles south of Chicago, and 60 miles north of the southern tip of Illinois. The area is bounded to the west by the Mississippi River, and to the south and east by the Ohio River, and contains some of the most rugged and beautiful terrain in Illinois. Acres of peach and apple orchards, myriad lakes, a dozen state parks, and the Shawnee National Forest are all within a short drive of Carbondale.

Campus

Southern Illinois University at Carbondale is situated on the southern edge of the city of Carbondale. Of a total holding of more than 3,290 acres, 981 acres have been developed as the University's main campus. Care has been taken to preserve the natural features of the land, such as the spring fed lake-on-campus and Thompson Woods. Approximately seventy large permanent classroom buildings and residence halls, along with several hundred small temporary buildings, line the two tree shaded circular campus drives named after Lincoln and Douglas. Facilities range from the several historic buildings that comprised the original campus a hundred years ago, to the most modern of laboratory and clinical buildings, constructed within the last twenty years or so. Recent growth has culminated in the new \$9,400,000 Lesar Law Building, opened in 1981. Nearly all are fully accessible to the physically handicapped.

In addition to its main campus, the University also operates a medical school campus in Springfield for the second, third, and fourth years of medical training, plus numerous clinical sites throughout southern Illinois for its interns; a Carterville campus for several of the School of Technical Careers' programs, located some 10 miles to the east; facilities for the aviation technologies programs at the Southern Illinois Airport, two miles west; farm and forestry research stations; and the Touch of Nature Environmental Center, a 3,100 acre site for outdoor learning experiences located on Little Grassy Lake.

Accreditations and Affiliations

North Central Association of Colleges
and Secondary Schools
National Council for Accreditation of
Teacher Education

Accrediting Council of the American
Assembly of Collegiate Schools of
Business (undergraduate and master's level programs)

Accreditation Board for Engineering and Technology, Inc.
American Association for Accreditation of Laboratory Animal Care
American Association of Museums (University Museum)
American Bar Association
American Board of Funeral Service Education (Mortuary Science program)
American Chemical Society
American Council on Education for Journalism
Commission of Accreditation of Dental and Dental Auxiliary Educational Programs of the American Dental Association (Dental Hygiene and Dental Laboratory Technology programs)
Commission on Accreditation of Rehabilitation Facilities (Vocational development program)
Committee on Allied Health Accreditation (CAHEA)
American Dietetic Association (programs meet standards for traditional baccalaureate programs in field of nutrition or dietetics)
American Medical Association and American Association of Medical Colleges
American Physical Therapy Association (Physical Therapist Assistant program)
American Psychological Association (Counseling psychology and clinical training program)
American Speech-Language-Hearing Association by the Council on Professional Standards in Speech-Language Pathology and Audiology
Council on Rehabilitation Education (Rehabilitation Counseling program)
Council on Social Work Education
National Association of Schools of Art
Federal Aviation Administration (Aviation Technology program)

Faculty

The University faculty is dedicated to excellence in teaching and to the advancement of knowledge in a wide variety of disciplines and professions. Many faculty members are well known both nationally and internationally for their many varied research contributions. The Undergraduate Catalog lists the numerous programs offered by the faculty and, in addition, in Chapter 6 of this catalog the faculty members are listed by departments in which they are appointed.

Foundation for Interior Design Education Research
Illinois Office of Education
Superintendent of Education
State Teacher Certification Board
Illinois State Board of Education
Illinois Department of Registration and Education (Associate Degree Nursing program)
National Association of Industrial Technology (B.S. program in Industrial Technology)
National Association of Schools of Music
Liason Committee on Medical Education of the Joint Review Committee on Education in Radiologic Technology, sponsored by the American College of Radiology and the American Society of Radiologic Technologists.
Society of American Foresters
National Shorthand Reporters Association (court reporter training program)
Association of University Programs in Health Administration (Health Care Services option of B.S. degree in Technical Careers)
National Athletic Trainers Association
National Recreation and Parks Association (National accreditation council)
University Council for Vocational Education
National Collegiate Honors Council
Upper Midwest Honors Council
Honors Council of the Illinois Region
Association of American Law Schools
National Association of Schools of Public Affairs and Administration
American Institute of Professional Geologists
Association of Research Libraries
The Association of American University Presses

Curricula

The undergraduate majors and minors offered by Southern Illinois University at Carbondale are listed below in alphabetical order. Also indicated is whether a major, a minor, or both are offered. The academic unit which offers the major is listed as is the degree the student would expect to receive upon graduation. If a major may be completed in more than one academic unit, the other units are listed on additional lines. For example, the biological sciences major is offered through the College of Science. Students planning to teach biological sciences may also complete the major in the College of Education. The requirements for each of the programs listed below are explained in Chapter 4 of this bulletin. The degree abbreviations used are: A.A.S., Associate in Applied Science; B.A., Bachelor of Arts; B.Mus., Bachelor of Music; and B.S., Bachelor of Science.

In addition to the majors and minors listed, preprofessional programs may be completed in dentistry, law, medicine, nursing, optometry, pharmacy, physical therapy, podiatry, public health, theology, and veterinary science.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Accounting	X		College of Business and Administration	B.S.
Administration of Justice	X	X	College of Human Resources	B.S.
Administrative Sciences	X		College of Business and Administration	B.S.
African Studies		X		
Agribusiness Economics	X	X	School of Agriculture	B.S.
Agricultural Education	X		School of Agriculture	B.S.
			College of Education	B.S.
Agricultural Education and Mechanization	X	X	School of Agriculture	B.S.
Agriculture, General	X	X	School of Agriculture	B.S.
Allied Health Careers	X		School of Technical Careers	A.A.S.
Animal Industries	X	X	School of Agriculture	B.S.
Anthropology	X	X	College of Liberal Arts	B.A.
Aquatics ³		X		
Architectural Technology	X		School of Technical Careers	A.A.S.
Art	X	X	College of Communications and Fine Arts	B.A.
			College of Education	B.S.
Asian Studies		X		
Athletic Training ³		X		
Automotive Technology	X		School of Technical Careers	A.A.S.
Aviation Technology	X		School of Technical Careers	A.A.S.
Avionics Technology	X		School of Technical Careers	A.A.S.
Biological Sciences	X	X	College of Science	B.A.
			College of Education	B.S.
Black American Studies		X		
Botany	X	X	College of Science	B.A.
			College of Education	B.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Business and Administration	X		College of Business and Administration	B.S.
Business Economics	X		College of Business and Administration	B.S.
Business Education ⁶	X	X	College of Education	B.S.
Chemistry	X	X	College of Science	B.A., B.S.
Child and Family	X	X	College of Education	B.S.
Chinese ¹		X	College of Human Resources	B.S.
Cinema and Photography	X			
Classical Civilization ¹		X	College of Communica- tions and Fine Arts	B.A.
Classics ¹	X		College of Liberal Arts	B.A.
Clothing and Textiles	X	X	College of Education	B.S.
Coaching ³		X	College of Human Resources	B.S.
Commercial Graphics — Design	X			
Communication Disorders and Sciences ⁵	X		School of Technical Careers	A.A.S.
Community Development		X	College of Communica- tions and Fine Arts	B.S.
Comparative Literature		X	College of Education	B.S.
Computer Science	X	X		
Construction	X		College of Liberal Arts	B.A.
Technology — Building			School of Technical Careers	A.A.S.
Construction Technology — Civil	X		School of Technical Careers	A.A.S.
Consumer Economics and Family Management (See Family Economics and Management)				
Consumer Studies ²		X		
Correctional Services	X		School of Technical Careers	A.A.S.
Dance ³		X		
Dental Hygiene	X		School of Technical Careers	A.A.S.
Dental Laboratory Technology	X		School of Technical Careers	A.A.S.
Design	X		College of Human Resources	B.A.
Early Childhood Education ⁴	X		College of Education	B.S.
Earth Science		X		
East Asian Civilizations ¹		X		
Economics	X	X	College of Liberal Arts	B.A.
Educational Media ⁴		X		
Electronic Data Processing	X		School of Technical Careers	A.A.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Electronics Technology	X		School of Technical Careers	A.A.S.
Elementary Education ⁴	X		College of Education	B.S.
Engineering	X		College of Engineering and Technology	B.S.
Engineering Technology	X		College of Engineering and Technology	B.S.
English	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Family Economics and Management	X		College of Human Resources	B.S.
Finance	X		College of Business and Administration	B.S.
Food and Nutrition	X		College of Human Resources	B.S.
Forestry	X		School of Agriculture	B.S.
French ¹	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Geography	X	X	College of Liberal Arts	B.A., B.S.
			College of Education	B.S.
Geology	X	X	College of Science	B.A., B.S.
German ¹	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Greek ¹		X		
Health Education	X		College of Education	B.S.
History	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Home Economics Education ⁶	X		College of Education	B.S.
Industrial Technology	X		College of Engineering and Technology	B.S.
Interior Design	X		College of Human Resources	B.S.
Japanese ¹		X		
Journalism	X	X	College of Communications and Fine Arts	B.S.
Language Arts (English and Reading) ⁴	X		College of Education	B.S.
Latin ¹		X		
Latin American Studies	X		College of Liberal Arts	B.A.
Law Enforcement	X		School of Technical Careers	A.A.S.
Linguistics	X	X	College of Liberal Arts	B.A.
Marketing	X		College of Business and Administration	B.S.
Mathematics	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
			College of Science	B.S.
Microbiology	X	X	College of Science	B.A.
Mortuary Science and Funeral Service	X		School of Technical Careers	A.A.S.
Museum Studies		X		

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Music	X	X	College of Communica- tions and Fine Arts	B.Mus., B.A.
Nursing	X		College of Education School of Technical Careers	B.S. A.A.S.
Occupational Education ⁶	X		College of Education	B.S.
Paralegal Studies for Legal Administrators	X		College of Liberal Arts	B.S.
Philosophy	X	X	College of Liberal Arts	B.A.
Photographic Produc- tion Technology	X		School of Technical Careers	A.A.S.
Physical Education	X	X	College of Education	B.S.
Physical Therapist Assistant	X		School of Technical Careers	A.A.S.
Physics	X	X	College of Science College of Education	B.S. B.S.
Physiology	X	X	College of Science	B.A.
Plant and Soil Science	X	X	School of Agriculture	B.S.
Political Science	X	X	College of Liberal Arts College of Education	B.A. B.S.
Psychology	X	X	College of Liberal Arts	B.A.
Radio-Television	X		College of Communica- tions and Fine Arts	B.A.
Radiologic Tech- nology	X		School of Technical Careers	A.A.S.
Recreation	X	X	College of Education	B.S.
Religious Studies	X	X	College of Liberal Arts	B.A.
Respiratory Therapy Technology	X		School of Technical Careers	A.A.S.
Russian ¹	X	X	College of Liberal Arts College of Education	B.A. B.S.
Secretarial and Office Specialties	X	X	School of Technical Careers	A.A.S.
Social Studies	X		College of Education	B.S.
Social Work	X		College of Human Resources	B.S.
Sociology	X	X	College of Liberal Arts	B.A.
Spanish ¹	X	X	College of Liberal Arts College of Education	B.A. B.S.
Special Major ⁷	X			B.A., B.S.
Special Education	X		College of Education	B.S.
Speech Communication	X	X	College of Communica- tions and Fine Arts College of Education College of Liberal Arts	B.S. B.S. B.A.
Speech Pathology and Audiology ⁸	X		College of Communica- tions and Fine Arts College of Education	B.S. B.S.
Technical Careers	X		School of Technical Careers	B.S.
Theater	X	X	College of Communica- tions and Fine Arts	B.A.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Tool and Manufacturing Technology	X		School of Technical Careers	A.A.S.
Uncommon Languages ^a		X		
University Studies	X			B.A., B.S.
Women's Studies		X		
Zoology	X	X	College of Science College of Education	B.A., B.S. B.S.

^aDescribed under Foreign Languages and Literatures

^bDescribed under Family Economics and Management

^cDescribed under Physical Education

^dDescribed under Curriculum, Instruction, and Media

^eDescribed under Linguistics

^fDescribed under Vocational Education Studies

^gA special major may be completed in any academic unit

^hDescribed under Speech Pathology and Audiology. Communication Disorders and Sciences has been approved as the new title.

Visits to Campus

Southern Illinois University at Carbondale welcomes the opportunity to visit with prospective students. Mondays through Fridays, 8 A.M. to 4:30 P.M., admissions counselors are available to discuss admissions requirements and procedures, the various programs offered at Southern Illinois University at Carbondale, the procedures for applying for housing and financial aid, as well as general information about the University and community. The counselors can also arrange guided tours of the campus and meetings with representatives of appropriate departments or offices. In order to benefit most from the visit to Southern Illinois University at Carbondale, it is advisable to arrive before 2 P.M.

Arrangements for a campus visit can be made by writing School/College Relations, Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901, or by calling a toll free number in Illinois (800-642-3531) or the direct number (618-453-4381). Arrangements should be made at least two weeks in advance of the day requested. Groups desiring to visit the campus are urged to give a month's advance notice, specifying the number to attend, day and time of arrival, and special interests or requests. For those who prefer a weekend visit, a schedule of guest days (open house activities) can also be obtained by contacting the office above.

Applying for Admission

Request application from the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901, or call toll free in Illinois 800-642-3531. For admissions requirements see Chapter 2.

Campus Living

On-Campus Housing for Single Students

Southern Illinois University at Carbondale offers a variety of living experiences through the on-campus residence halls for single students. These halls provide not only the usual room and board but also have special opportunities for participation in recreational and academic activities. Two distinct advantages of living on campus are the ready access to all facilities of the campus, such as the library, and the absence of a need for special transportation since all campus activities are within easy walking distance. Meal service in all areas except Small Group Housing provide 20 meals a week; three meals each day six days a week and breakfast

and noon dinner on Sunday. Unlimited second helpings are offered, and a new feature is a special diet table for students with special health problems. Co-ed living is available in all housing areas. All rooms are equipped with twin-sized beds, closet space, chest of drawers, desks, study chairs, and draperies. Linen service provides two sheets and one pillowcase weekly. Study lamps, pillows, towels, and other bedding materials must be provided by the student.

Freshmen under the age of 21, not living with parents or guardians, are required to live in on-campus residence halls, or similar privately-owned residence halls. The privately-owned residence halls must provide facilities, food service, and supervision comparable to on-campus housing. Sophomores under the age of 21, not living with parents or guardians, are required to live in on-campus residence halls or University approved off-campus housing. Sophomore approved off-campus housing includes rooming houses and residence hall apartments. There are no university regulations for junior, senior, graduate, married students or those students 21 years of age or over. Housing contracts are for the school year (fall and spring semesters) with summer contracts being issued separately. The residence halls close during breaks and official university vacations.

Thompson Point Residential Area. The Thompson Point coeducational residential area consists of eleven air conditioned halls, each housing approximately 120 students. Lentz Hall serves as the commons unit for food service and such services as a library, post office, snack bar, recreation center, and game rooms. The halls are located on the shores of Lake-On-The-Campus and provide unique opportunities at the lake for activities such as swimming, boating, fishing, and hiking. Also included in the Thompson Point residential area are special facilities for handicapped students.

University Park Residential Area. The University Park coeducational residential area is air conditioned and consists of Neely Hall, a 17-story residence hall and Allen, Boomer, and Wright Halls, 4-story men's triad buildings. Trueblood Hall serves as the commons unit providing the cafeteria, snack bar, game room, and post office. University Park is connected to the campus by an overpass which reaches from Trueblood Hall over the streets to the center of campus.

Brush Towers. Brush Towers consists of two 17-story, air-conditioned co-educational halls, Mae Smith Tower and Schneider Tower. The commons unit is Grinnell Hall which provides the cafeteria, snack bar, and game room.

Small Group Housing Area. The Small Group Housing area provides housing for recognized sororities and fraternities. Each building houses about fifty students and includes lounge and dining area, kitchen, and snack bar. Assignment of students to this area is by invitation from the fraternal organization.

More information or application forms may be obtained by writing the supervisor of contracts, University Housing, Building D, Washington Square.

Housing for Married Students

There are 576 apartments, both furnished and unfurnished, available for married students. The costs are from \$195 to \$268 a month with all utilities furnished.

Off-Campus Facilities

University Housing seeks continually to influence both the availability and quality of off-campus housing for students in terms of meeting as fully as possible the educational, physical, social, and economic needs of students living off campus as these needs relate to the objectives of the University. Numerous accepted living centers for freshmen and sophomore students off campus aid in the relationship between the student's living environment and progress toward the attainment of

the educational goals. The cost for off-campus housing ranges from \$250 to \$450 a month. Information may be obtained by writing directly to the supervisor of Off-Campus Housing, Building B, Washington Square. It is not considered wise to contract for an off-campus living facility, sight unseen.

Student Work and Financial Assistance

A variety of financial aid programs including scholarships, grants, loans, and part-time employment are administered and coordinated by the Office of Student Work and Financial Assistance.

Application for Financial Assistance

Financial aid is usually packaged as a combination of grants, scholarships, employment, and loans. The total amount of the financial aid package is based upon the student's financial need which is the difference between the typical cost of attending Southern Illinois University at Carbondale and the amount the student or family may be expected to contribute toward that cost. To determine this financial need, it is necessary that students and their parents complete and submit an American College Testing Program Family Financial Statement (ACT/FFS) each year. To have Southern Illinois University at Carbondale receive a need analysis copy, the ACT processing fee must be enclosed and the school code (1144) must be included. Having a current ACT/FFS on file will allow for participation in the student work program and consideration for campus-based aid (National Direct Student Loan, Supplemental Educational Opportunity Grant, Student to Student Grant). In addition to determining financial need, the ACT/FFS allows students to apply for the Pell (Basic) Grant and the Illinois State Scholarship Commission (ISSC) Monetary Award.

Students should apply for financial aid as early as possible. Since campus-based aid is limited, students wishing priority consideration must mail their ACT/FFS by April 1, 1983. Applications mailed after April 1 will be considered for campus-based aid on a funds-available basis.

Major Types of Assistance

Scholarships. All interested Illinois resident undergraduate students should apply for the Illinois State Scholarship Commission (ISSC) Monetary Award through the ACT/FFS form. This award is based on financial need and could provide tuition and fees.

Students interested in applying for an SIUC Scholarship must contact their academic unit for the application. Since these scholarships are limited, it is best to apply early.

Grants. All interested undergraduate students should apply for the federal Pell Grant. This award is based upon financial need and funds are to be used for educational expenses. The Supplemental Educational Opportunity Grant (SEOG) is available for undergraduate students displaying financial need. Both Pell Grant and SEOG may be applied for through submission of the 1983-1984 ACT/FFS.

Loans. Loan programs include the National Direct Student Loan (NDSL) and the Illinois Guaranteed Loan (IGLP). The NDSL may be applied for through the ACT/FFS. Applications for a Guaranteed Student Loan must be obtained from the student's hometown bank or local lending institution in the state of residency.

Part-time Employment. Students wishing to participate in the on-campus student work program must have a current ACT/FFS on file. Students can work a maxi-

num of 20 hours per week at the prevailing minimum wage. There are over 200 student work classifications including such jobs as photographers, secretarial, typists, switchboard operators, and sports officials.

For part-time off-campus job referrals, an Illinois Job Service representative is available for consultation. There are approximately 3000 students working off-campus during an academic year.

Other. Veterans, Social Security, Railroad Retirement, and Civil Service Retirement benefits are also available to those who qualify.

A Financial Aid Opportunities brochure has been prepared which summarizes the various financial aid programs available, including eligibility requirements, amount of assistance, and where to apply. This brochure, as well as individual counseling, is available from the Office of Student Work and Financial Assistance, Woody Hall, 3rd Floor, B Wing, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. The telephone number is Area Code 618, 453-4334.

Requirements for Transfer Students

Financial aid does not automatically transfer when a student changes institutions. For this reason, students who are transferring from another college or university to Southern Illinois University at Carbondale must have a financial aid transcript indicating all financial aid received from their present school sent to the Student Work and Financial Assistance Office. It is necessary for transfer students to check with the Student Work and Financial Assistance Office in order to determine if the assistance received at another institution will be available at Southern Illinois University at Carbondale. The financial aid transcript forms may be obtained from the Student Work and Financial Assistance Office.

In order to continue a National Direct Student Loan (NDSL), a Supplementary Educational Opportunity Grant (SEOG), or qualify for a work study job, students must reapply at Southern Illinois University at Carbondale. To determine whether an Illinois Guaranteed Loan can be continued at Southern Illinois University at Carbondale, the student should check with the lender.

Students who are receiving a Pell Grant and who are transferring at any time other than the fall semester must obtain a duplicate set of the Student Aid Report (SAR) to submit to the Student Work and Financial Assistance Office. For those who are receiving the Illinois State Scholarship Monetary Award (ISSC), the Illinois State Scholarship Commission must be notified of plans to transfer to Southern Illinois University at Carbondale. The award amount will be recomputed and adjusted based on the costs to attend this University.

Academic Progress Standards for Financial Assistance

At this time, the criteria for determining if a student receiving financial assistance meets the Satisfactory Progress requirements is being reviewed and revised. Information concerning the Southern Illinois University at Carbondale Policy on Satisfactory Progress can be obtained by contacting the Office of Student Work and Financial Assistance prior to the 1983-84 academic year.

2 Academic Regulations and Procedures

Admission Policies, Requirements, Procedures

In order to attend classes at Southern Illinois University at Carbondale, students must gain official admission to the University and must complete the enrollment process, which includes advisement, registration, and payment of fees.

Applications for admission to the University are accepted anytime during the calendar year but should be submitted at least thirty days prior to the beginning of classes.

The University may close admission for students or programs whenever the availability of faculty or facilities warrant.

All beginning freshman applicants must submit entrance examination scores except those who are twenty-one years of age or older who qualify for admission by class rank. Transfer students are also required to submit entrance examination scores if they are less than twenty-one years of age and have fewer than twenty-six semester hours (thirty-nine quarter hours) of acceptable transfer work. Currently the ACT (American College Test) is the required entrance examination.

Admission of Freshmen

To be eligible for admission, applicants must be graduates of recognized high schools. Graduates of non-recognized high schools may be admitted to the University by an entrance examination. Persons who have not completed high school may be considered for admission by completing the GED test provided they meet the requirements to write this examination.

All admissions granted students while in high school are subject to the completion of high school work and graduation from high school.

Students entering the University as freshmen are admitted in the schools or colleges within the University that offer the academic programs they indicate they plan to pursue. Students who are undecided as to the course of study they want to follow are admitted to the General Academic Programs unit in pre-major advisement or to selected other units with an undecided major.

Students who are admitted as beginning freshmen but enroll at another college or university prior to their enrollment at Southern Illinois University at Carbondale will automatically void their admission as beginning freshmen. It will be necessary for the student whose admission is voided to reapply for admission and be considered for admission accordingly.

While beginning freshmen are considered for admission on the basis of a combination of class rank and test scores, it is strongly recommended that students will have completed in high school a comprehensive academic program. Recent studies have indicated a number of deficiencies among students in such basic skills as reading, writing, and mathematics. Therefore, students should attempt to complete as many courses as possible in English, mathematics, science, etc., before entering college.

ADMISSION OF FRESHMEN TO BACCALAUREATE PROGRAMS

High School graduates who: (1) have an entrance examination score at the fiftieth percentile or higher or (2) have an entrance examination score at the thirty-third percentile or higher and rank in the upper half of their graduating class based on class rank are eligible for admission to any semester. Those students who qualify for admission to any semester will be considered for admission after completion of their junior year in high school.

High school graduates who do not meet the admission requirements above are urged to submit applications for admission to the University. If they demonstrate potential for academic success, they may be considered for admission through the Special Admissions Program. Students admitted through the Special Admissions Program are admitted in good standing for fall semester. They are required to participate in academic assistance activities including tutorials and courses designed to teach basic skills which are designed to enhance their opportunities for success.

High school graduates who do not meet the requirements above but who rank above the thirty-third percentile by either class rank or entrance examination scores are admissible for the spring semester on a conditional basis. The conditions are (1) that the student must enroll for a minimum of twelve semester hours and complete at least ten semester hours of graded work and (2) that the student is admitted on probation and must meet the scholastic requirements for probationary students. Students who fail to meet either condition may not continue in attendance subsequent semesters unless approved for readmission by the dean of the school or college. Ordinarily, the student will not be considered for readmission for at least one academic year. Students who have been admitted or who qualify to be admitted on condition may earn transfer credit at another college or university prior to their spring semester matriculation, provided they earn a *C* average or above for any transfer work completed. If they do not earn a *C* average for transfer work, their admission will be withdrawn. Students who present twenty-six semester hours or more of transfer work should refer to the section of the bulletin which explains admission of transfer students.

Students who are less than twenty-one years of age and have completed satisfactorily the General Educational Development Test can qualify for admission by achieving an entrance examination score above the thirty-third percentile.

ADMISSION OF FRESHMEN TO ASSOCIATE DEGREE PROGRAMS

High school graduates who rank in the upper two-thirds of their graduating classes based upon class rank or by score on the University entrance examinations are eligible for admission to any semester. Students who have passed the General Educational Development Test are also eligible for admission for any semester. Graduates whose rank is lower third by either class rank or test scores are admissible to the spring semester on a conditional basis. The conditions are: (1) that the student must enroll for a minimum of twelve semester hours and complete at least ten semester hours of graded work and (2) that the student is admitted on probation and must meet the scholastic requirements for probationary students. Students who fail to meet either condition may not continue in attendance subsequent semesters unless approved for readmission by the dean of the School of Technical Careers. Ordinarily, the student will not be considered for readmission for at least one academic year.

Students who did not meet the University baccalaureate admission requirements to enter as freshmen from high school during the regular academic year and elect to enter an associate degree program in the School of Technical Careers will not be considered for admission to a four-year program until they have completed 26 semester hours and have an overall *C* average.

Because a number of courses are offered on a sequential basis in the School of Technical Careers, some programs begin only in the fall. Applicants should review the admission application guide to determine when selected programs will allow students to enter the School of Technical Careers.

Admission of Transfer Students

A student who has attended another college, university, or postsecondary institution is required to submit an official transcript from each institution attended. All transcripts become the official property of Southern Illinois University at Carbondale and will not be returned nor issued to another institution.

Students applying for admission to the University with previous post secondary education will be considered for admission as follows:

1. A student who has been enrolled in an institution which is accredited by one of the regional accrediting associations or an institution in candidacy status will be considered for admission on the basis of the regular transfer admission standards, or

2. A student who has attended an institution which is not accredited by or in candidacy status with one of the regional accrediting associations will be considered for admission on the basis of the regular transfer admission standards if the credit from that institution is accepted in a similar manner by the reporting institution in that state, or

3. A student who has completed a non-baccalaureate two-year or equivalent terminal program with a *C* average in an institution which is not accredited by or in candidacy status with one of the regional accrediting associations will be admitted if the institution is one recognized by NATTS, AMA, ABET, or similar accrediting bodies recognized by the National Commission on Accrediting or the United States Office of Education. Students admitted from such institutions should not expect to receive credit at Southern Illinois University at Carbondale except in programs which offer occupational credit.

Even though a student has attended another college or university, the student is required to have graduated from a recognized high school or completed satisfactorily the General Educational Development Test.

All grades earned in transferable courses and in courses with a grade point value are used to calculate the grade point averages used for admission purposes. This includes grades earned in repeated courses, except those completed prior to the 1971 summer session. Transfer work is calculated according to Southern Illinois University at Carbondale regulations rather than those of institutions students have previously attended.

In the event transfer students' grade point average cannot be determined, their admission may require, in addition to a review of their college performance, standardized examinations and secondary school records.

Transfer students who have been suspended for any reason other than academic failure must be cleared by the Student Life Office before admission will be granted by the director of admissions.

Transfer students will be admitted directly to the school or college in which their major fields of study are offered. Students who are undecided about their major fields of study will be admitted to the General Academic Programs unit in pre-major advisement or to selected other units with an undecided major.

Transfer students who have completed a minimum of one year of work can be considered for admission one year in advance of their date of matriculation if they plan to transfer without interruption. Students who have completed less than one year of study may initiate the admission process after the completion of one semester or one quarter of work. Students who are enrolled in a collegiate program for the first time and wish to transfer upon completion of their first term may do so if they meet the University's admission requirements for beginning freshmen.

Admission may also be granted one year in advance for selected programs to students who are in their first term of a collegiate program provided they qualify for admission as beginning freshmen. Admission granted to a student on partial or incomplete records is granted with the condition that the student will have an overall *C* average and be eligible to continue at the last school attended at the time of matriculation. Students whose final transcripts indicate a grade point average or scholastic standing less than that required for unconditional admission will have their initial admission withdrawn.

ADMISSION OF TRANSFER STUDENTS TO BACCALAUREATE PROGRAMS

Students who have an overall *C* average, 2.0 on a 4.0 scale (all institutions), and are eligible to continue their enrollment at the last institution of attendance will be eligible for admission to any semester. If a student is seeking admission with fewer than twenty-six semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as a transfer student for unconditional acceptance.

Students who do not meet the University's transfer admission requirements will have their applications reviewed thoroughly. Those students who submit evidence of scholastic aptitude can be considered for admission on a probationary basis. Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional education can be completed successfully. Tangible evidence might include: (1) an interruption of schooling for one or more years, (2) military experience, (3) work experience, and (4) previous academic performance.

Students who have graduated with an associate degree in a baccalaureate-oriented program from a two-year institution may enter Southern Illinois University at Carbondale in good academic standing any semester provided they have not taken additional college work since their graduation. If they have, their admission will be considered on the basis of their conformity to the University's regular transfer admission standards.

Students who are transferring from programs which are not baccalaureate-oriented should refer to the section titled evaluation of transfer credit for additional information.

ADMISSION OF TRANSFER STUDENTS TO ASSOCIATE DEGREE PROGRAMS

Students who have an overall *C* average, 2.0 on a 4.0 scale (all institutions), and are eligible to continue their enrollment at the last institution attended are eligible to be considered for admission for any semester. If a student is seeking admission with fewer than twenty-six semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as transfer students for unconditional acceptance.

Students who do not meet the University's transfer admission requirements will have their applications reviewed thoroughly. Those students who submit evidence of scholastic aptitude can be considered for admission on scholastic probation. Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional education can be completed successfully. Tangible evidence might include: (1) an interruption of schooling for one or more years, (2) military experience, (3) work experience, or (4) previous academic performance.

A student who is admitted to an associate degree program as a transfer student and then decides at a later date to enter a four-year program must meet the University's baccalaureate admission requirements at the time of transfer.

New students may be admitted only for the fall semester to select majors in the School of Technical Careers. Please consult the admission application guide to determine when new students can be admitted to two-year programs in the School of Technical Careers.

Admission of International Students

In general, international students must meet the same academic standards for admission as those required of native students. As there is considerable variation between educational systems throughout the world, precise comparative standards are not always available. Therefore, international students are selected upon the basis of their former academic work, English proficiency, and evidence of adequate financial resources.

In addition to submitting copies of secondary school records and, when applicable, college transcripts, international students must also submit scores from TOEFL examination (Test of English as a Foreign Language). TOEFL scores are required of all international students who (1) have completed their secondary education in a country where English is not the native language, (2) have completed fewer than two years study in a United States high school, (3) have completed fewer than two years (60 semester hours) of collegiate training in an accredited United States college or university. Students who have completed their secondary education in a country where English is the native language are required to submit scores from either the American College Test or the Scholastic Aptitude Test.

Students who have acquired immigrant status are also required to demonstrate English proficiency. English proficiency can be demonstrated by successful completion of the TOEFL examination or a special English examination administered by the Center for English as a Second Language. Immigrants who have completed at least two years of study in a United States high school, have earned sixty semester hours in a United States college or university, or have completed their secondary education in a country in which English is the native language are not required to submit TOEFL scores or write a special English examination. They may, however, be required to submit university entrance examination scores if they are seeking admission as beginning freshmen or transfer students with fewer than twenty-six semester hours.

International students whose secondary school and college records are acceptable for admission purposes must also receive high enough TOEFL scores for unconditional admission. Students with a TOEFL score of 525 or higher will be granted unconditional admission. Applicants whose TOEFL score is between 475 and 524 will be admitted contingent upon completion of an English re-test administered by the Center for English as a Second Language. Students who fail to submit TOEFL scores, or who do not submit acceptable TOEFL scores, will be required to attend courses at the Center for English as a Second Language.

International students interested in making application to Southern Illinois University at Carbondale should address their inquiries to the Office of Admissions and Records, Southern Illinois University at Carbondale, Illinois 62901.

This school is authorized under Federal law to enroll nonimmigrant alien students.

Admission of Former Students

Students who have attended another institution since their previous enrollment at Southern Illinois University at Carbondale must submit an official transcript from that institution before they can be considered for re-admission. In addition, a student who has a financial obligation to the University must clear this hold before being considered for re-admission. Students who were suspended for scholastic or disciplinary reasons during their previous enrollment at the University must be approved for re-admission by the appropriate academic or student services dean before they can be re-admitted to the University.

It is advisable for former students to initiate the re-admission process with the Office of Admissions and Records early so that all inquiries may be answered and the applicants can find time to complete any special requirements that may be imposed upon them. (See Scholastic Probation and Suspension System elsewhere in this catalog for further information.)

Admission of Special Categories of Students

Several types of students are given special consideration when seeking admission to the University. These are described below:

ADMISSION OF VETERANS

Veterans seeking admission or re-admission to the University are admitted in good standing regardless of their previous academic record provided that either (a) no additional education has been attempted or (b) such additional education has been of C quality or better. Prior academic work of an admitted reentering veteran is counted together with all subsequent work after admission. Veterans are required to submit all required admission credentials before their applications can be processed. This includes high school transcripts or GED scores and official transcripts from each college or university previously attended.

EARLY ADMISSION POLICY FOR FRESHMEN

Exceptionally capable high school students who (a) have completed their junior year, (b) are recommended by their high school principals, and (c) are approved by the director of admissions of the University will be permitted to enroll for University courses to be taken concurrently with their senior year of high school work. Such students will also be permitted to enroll for University courses offered during the summer session between their junior and senior years of high school, without being concurrently enrolled in the secondary school. Enrollment during the summer for students participating in this early admission program is limited to eight semester hours.

The early admission program is intended to be an acceleration and enrichment experience. Students should avoid taking university classes in those subjects in which additional work might be taken in high school. When a high school representative specifically recommends a course or courses to be taken, a university academic adviser will assist the student in arranging a schedule.

It is expected that high school principals will judge each case on its individual merits, and that in making their selections and recommendations they will consider such things as:

- a. the rank held by the students in their high school classes;
- b. the results of any standardized test which the students may have taken;
- c. the opinion of the students' teachers regarding their aptitude for college level work; and
- d. the opinion of the students' teachers regarding the students' having attained sufficient maturity to adjust to the social and emotional interactions involved.

ADMISSION OF ADULTS AS UNCLASSIFIED STUDENTS

Adults who have graduated from high school or who have passed the GED tests can be considered for admission as unclassified students. Students in this special category are non-degree students and are not required to submit all records normally required for admission to degree programs.

ADMISSION OF TRANSIENT STUDENTS

Students who are attending other collegiate institutions and want to enroll in the summer must submit an application for admission and an official transcript from the last institution attended. Transient students must meet regular University

requirements which means they must have a *C* average and be eligible to continue their enrollment at the last institution attended.

Applying for Admission

High school students are urged to initiate the admission process during the seventh semester in high school. Transfer students who have completed a minimum of one year of work can be considered for admission one year in advance of their date of matriculation if they plan to transfer without interruption. Transfer students who have not completed one year of study may initiate the admission process after the completion of one semester or one quarter of work. Students who delay their admission processing until near the start of the semester which they wish to enter may find that they are unable to do so because all necessary documents required before the admission decision will be made have not been received. It is particularly important for transfer students to initiate the admission application process well before the starting date of the semester. Otherwise, delay in getting started, undesirable class schedules, or inability to attend the desired semester may result. Documents required in the admission process are listed below.

The admission process is initiated by writing the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901, indicating a desire to apply and requesting admission materials. The materials that are sent include the application and related forms that need to be completed along with procedural instructions. Information is also included relative to housing and financial assistance.

DOCUMENTS REQUIRED FOR ADMISSION

Among the items required by the University before an admission decision is made are the following:

1. The completed application form from the students.
 2. Transcripts of previous educational experience. For high school students the request is for two copies of the high school transcript or a copy of the General Educational Development Test scores. Transfer students must submit to the Office of Admissions and Records an official transcript from each institution previously attended. In addition, transfer students presenting fewer than 26 semester hours (39 quarter hours) of completed work must provide to the University a copy of their high school transcript or General Educational Development Test scores. Transfer students who have attended an institution whose credit is not acceptable for admission must also submit copies of their high school transcripts and ACT scores.
 3. University entrance examination scores. All students who are less than twenty-one years of age applying for admission directly from high school and all transfer students who have completed fewer than 26 semester hours (39 quarter hours) must have their official ACT scores sent to the University from the American College Testing Program, Box 451, Iowa City, Iowa 52240.
- Applications for housing and financial assistance are separate from the admission process and directions relating thereto are contained in the brochures on these subjects which the students receive as part of the admissions process.

Transfer Credit

Transfer credit for students admitted to the university is evaluated for acceptance toward University and General Studies requirements by the Office of Admissions and Records after the admission decision has been made. All credit from a regionally accredited institution, and those in candidacy status, or from an institution that has its credit accepted by the reporting institution in the state is accepted at

the time of admission. Courses which are remedial or developmental will not be accepted for transfer. The Office of Admissions and Records will determine the acceptance of credit and its applicability toward General Studies requirements. Although transfer credit from baccalaureate and non-baccalaureate programs may be considered in the admissions process, the acceptance of such credit toward specific programs requirements will be made by the department or agency directing the program.

All credit which is accepted for transfer and which is not applied to General Studies requirements or to a specific program will be considered elective credit. The decision will be made depending upon the program the student has completed and the program entered at Southern Illinois University at Carbondale. A student should not expect to receive credit if the transfer work was taken at a school which is neither regionally accredited or whose credit is not accepted by the reporting institution in the state.

Completion of an associate degree in a baccalaureate oriented program in an accredited Illinois two-year institution provides that the student will: (a) be accepted with junior standing and (b) be considered to have completed the General Studies requirements. Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented, the same benefits will be extended to those graduates. Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at Southern Illinois University at Carbondale or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Further information on the application of transfer work toward satisfying General Studies and graduation requirements may be found in Chapter 3.

Orientation, Advisement, Registration

Through a carefully designed system of orientation, academic advisement, and registration the University attempts to assure entering students an efficient and effective introduction to the University prior to the time they start class attendance. A more extensive program is provided for those students entering during the fall semester while abbreviated activities are in operation for the other semesters.

The University conducts an advance registration system. All continuing and new students have the opportunity and are expected to complete advisement and registration for a semester before its actual start.

During the summer several weeks are set aside for new freshman and transfer students admitted for fall semester to complete advisement and registration. Students are invited to have their parents accompany them so they too may obtain a better understanding of the University than might otherwise be the case. At the start of the fall semester new students participate in orientation activities during which time they receive introduction to university life.

Starting in May and extending through June the University notifies new students admitted for the fall semester when they are to come to the campus for advisement and registration. Through this process only the number of students that can be efficiently handled are involved each day. Students who cannot come to the campus during the summer or who delay applying for admission beyond the advance registration period may register at the start of the fall semester but are required to come to campus a few days before those who have registered during the summer period.

Similar procedures are followed at the start of the other semesters. Admitted students are kept informed of orientation, advisement, registration procedures,

and the times when they occur by the Office of Admissions and Records in cooperation with the Student Activities Office.

Academic Advisement

Academic advisement is administered by the academic units. Each unit employs a selected group of trained advisers. They operate under the supervision of a chief adviser who is responsible to the dean of the academic unit.

The University accepts the importance of the academic advisement function. Insistence on receipt of transcripts and ACT scores prior to admission serves not only to determine admission but later provides suitable educational information to the advisers upon which decisions can be made relative to the proper courses to advise the students to take. On the basis of this information the advisers can make intelligent decisions relative to students who should receive advanced standing in courses or who should be urged to take proficiency examinations in courses about which they appear to be already well informed.

Registration

Registration for any semester of the University is contingent upon being eligible for registration. Thus advance registrations, including the payment of tuition and fees, are considered to be invalid if the students are later declared to be ineligible to register due to scholastic reasons. Students may also be considered ineligible to register because of financial or disciplinary reasons if this is certified to the Office of Admissions and Records by the appropriate University office.

Detailed information about the dates and procedures for advisement and registration appears in each semester's Schedule of Classes, which is available from the Office of Admissions and Records.

Students should be familiar with the following general points about registration.

1. Registration for a semester is conducted under a registration calendar consisting of three distinct periods. Advanced registration occurs during the last eight weeks of the preceding term; final registration immediately preceding the start of classes and late registration during the first week of classes.

2. Currently enrolled students are expected to register during the advanced registration period. New freshmen, transfer, and re-entry students are provided an opportunity to advance register on specific new student registration days during the advanced registration periods.

3. Students who are unable to advance register may register prior to the beginning of classes during the final registration period.

4. Students initiate registration with the advisement center of their colleges or schools.

5. The course request forms and program change forms must be processed through the Registration Center in the Office of Admissions and Records.

6. Mere attendance does not constitute registration in a class, nor will attendance in a class for which a student is not registered be a basis for asking that a program change be approved permitting registration in that class. Students should complete the registration process before classes begin.

7. Enrollment changes to classes can only be made through the processing of an official program change form.

8. Tuition and fees are payable in advance or by installments and no student shall be enrolled in any educational unit until at least the first installment of tuition and fees have been paid or officially deferred.

9. Students may not drop a course merely by stopping attendance. (See the Withdrawal from Courses and from the University section of this chapter.)

10. There is a terminal date near the end of each semester or session after which withdrawal from the University cannot be processed prior to the assignment of grades. As a result withdrawal will be allowed only in unusual circumstances. This

date is usually one week before final examinations start. The specific date appears in each appropriate Schedule of Classes.

Tuition and Fees and Other Financial Information

It is difficult to indicate the specific cost of attending the University because of the differences in personal spending habits. However, the following information may be helpful.

Tuition and Fees

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis, with 12 hours considered full time. Students will be assessed the following tuition and fees each term:

ON-CAMPUS UNDERGRADUATE TUITION AND FEE SCHEDULES

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 33.75	\$ 76.31	\$110.06	\$101.25	\$ 76.31	\$ 177.56
2	67.50	85.37	152.87	202.50	85.37	287.87
3	101.25	96.69	197.94	303.75	96.69	400.44
4	135.00	108.17	243.17	405.00	108.17	513.17
5	168.75	119.64	288.39	506.25	119.64	625.89
6	202.50	131.13	333.63	607.50	131.13	738.63
7	236.25	142.61	378.86	708.75	142.61	851.36
8	270.00	154.08	424.08	810.00	154.08	964.08
9	303.75	165.56	469.31	911.25	165.56	1,076.81
10	337.50	177.04	514.54	1,012.50	177.04	1,189.54
11	371.25	188.52	559.77	1,113.75	188.52	1,302.27
12 or more	405.00	200.00	605.00	1,215.00	200.00	1,415.00

STUDENT FEE DISTRIBUTION

Semester Hours Enrolled	STS Grant (1)	Student Center (2)	Student Activity (3)	REC (4)	Athletic (5)	Medical (6)	RBF (7)
1	\$2.25	\$5.00	\$.71	\$2.00	\$ 2.50	\$60.00	\$ 3.85
2	2.25	5.00	1.42	4.00	5.00	60.00	7.70
3	2.25	7.25	2.14	6.00	7.50	60.00	11.55
4	2.25	9.67	2.85	8.00	10.00	60.00	15.40
5	2.25	12.08	3.56	10.00	12.50	60.00	19.25
6	2.25	14.50	4.28	12.00	15.00	60.00	23.10
7	2.25	16.92	4.99	14.00	17.50	60.00	26.95
8	2.25	19.33	5.70	16.00	20.00	60.00	30.80
9	2.25	21.75	6.41	18.00	22.50	60.00	34.65
10	2.25	24.17	7.12	20.00	25.00	60.00	38.50
11	2.25	26.58	7.84	22.00	27.50	60.00	42.35
12 or more	2.25	29.00	8.55	24.00	30.00	60.00	46.20

The fees which have been established by the Board of Trustees are payable by all students unless they are specifically exempted by the Board of Trustees. All fees are considered to be institutional in nature and require payment regardless of whether or not the student receives direct benefits or is in a location which permits access to such benefits.

STUDENT FEES INCLUDE

1. The Student-to-Student (STS) Grant Program Fee provides funding of a student grant program. The fee is payable by undergraduate students only. Undergraduate students who do not wish to participate in the program may seek a credit of the fee by contacting the Office of Admissions and Records within ten days of the date of payment of fees.

2. The Student Center Fee provides funding for operation of the Student Center.

3. The Student Activity Fee provides funding for student organizations and activities on campus.

4. The Student Recreation Fund (REC) Fee provides funding for construction and operation of physical facilities for student recreation and intramural programs.

5. The Athletic Fund Fee provides partial funding of the University's intercollegiate program for men and women.

6. The Student Medical Benefit (SMB) Fee provides funding for a comprehensive health program including on-campus out-patient care, infirmary care on campus, emergency services, hospitalization, specialty care, emergency dental care, out-of-the area benefits, and prevention programs. Students who pay the fee are entitled to full medical benefits at the Student Health Program. Students who have comparable coverage may seek a credit of the fee within the first three weeks of each semester by contacting the insurance department of the Student Health Program. Additional information may be found in Chapter 1.

7. The Revenue Bond Fee (RBF) replaces funds which were previously obtained from tuition payments and used to underwrite the funded debt operations of the Student Center and University Housing.

ADDITIONAL FEE INFORMATION

1. Students are urged to refer to the Schedule of Classes for more specific fee information.

2. A late registration fee of \$15.00 shall be assessed to all students taking on-campus classes who register after the designated registration period. This fee shall be non-refundable and non-waiverable, except when it is clearly shown that the late registration was caused by faculty or administrative action. Off-campus classes and registration in courses numbered 599, 600, or 601 shall be exempt from the fee.

3. Graduate, medical, and law students are not required to pay the student-to-student grant program fee so their student fees will be \$2.25 less than the amount listed in the appropriate column above.

4. Permanent full-time or permanent part-time employees may be eligible for waiver of tuition and waiver of a portion of the student fees. Approval by the department head and the director of the Personnel Office must be given prior to enrolling for courses. Employees who are approved are required to pay the Student Center and Student-to-Student Grant fees as listed in the table above.

5. Other charges which students may incur are those for departmental field trips, library fines, and excess breakage. Also, students taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.

6. Students registering for courses on an audit basis pay the same tuition and fees as though they were registering for the courses for credit.

7. Out-of-state students will find the official University regulations governing determination of residency status for assessment of tuition later in Chapter 2.

8. Medical students are not required to pay Student-to-Student Grant Program Fee. In addition, medical students in Springfield are not required to pay Student Center, Athletic Fee, Student Recreation or the Revenue Bond Fee and pay \$40.00 of the Student Medical Benefit Fee.

9. Students enrolled in public service courses pay only tuition and \$3.00 per hour in fees. The fees are divided equally between Student Center and Student Medical Benefit Fees. Students who combine enrollment in public service courses and regular on-campus courses pay tuition and fees for the combined total of hours enrolled.

10. Students enrolling in off-campus courses pay tuition only. Students who combine enrollment in on- and off-campus course pay tuition only for hours off campus plus tuition and fees for hours enrolled on campus.

11. In addition to the above fees, there is a graduation fee. For further information contact the Office of Admissions and Records.

PAYMENT AND REFUNDING OF TUITION AND FEES

Tuition and fees are payable each semester during the academic year. Students who register in advance will receive a statement of account by mail after the 15th of each month listing all tuition and fees assessed, other charges, credits, and cash payments applied to their account during the billing period. Payment may be made either by mail or in person at the Bursar's Office by the deadline date in accordance with instructions printed on the statement of account. Failure to pay by the stated deadline will result in the cancellation of registration and will require registration at a later date.

Students who advance register for a semester or a summer term may pay tuition and fees in up to four equal installments for the fall and spring semesters and two installments for the summer session. Students who option for installment payment need only to pay the minimum amount due indicated on the May, July, or December statement of account by the stated deadline. There is no installment payment plan for students enrolled in only off-campus courses. Students who elect to pay by installment may be assessed a service charge of one-half of one percent per month on the unpaid balance limited to a maximum of 50 cents per month. More detailed information is in the Schedule of Classes published each semester.

Students who process a program change which places them in a different tuition and fee category than the one for which they originally registered will be billed additional tuition and fees when appropriate. If the change places them in a smaller tuition and fee category and if they processed the program change within the first three weeks of the semester, they will receive a refund provided their account carries no other charges.

Students who officially withdraw from school by the specific withdrawal deadlines will receive a credit to their University account. Students with credit balances in their account will receive a refund by mail approximately three weeks from the date of withdrawal.

Mailing and Home Addresses. The University maintains both a mailing and a home address for students. Accurate addresses are very important for students to insure receipt of timely mail from the University.

The mailing address is used by the University to address the monthly billing and receivable system statement of account, refunds, and other correspondence.

The home address maintained by the University is the permanent home address of students or the address at which students will promptly receive mail when they are absent from Carbondale. Foreign students should change the home address of their native country to the United States address to which their mail may be sent

whenever classes are not in session. Married students should change their home address to the same address which they use as their mailing address.

Grade reports and advanced registered student schedules are mailed to the students home address in August, December, and May. Also December statements of account are mailed to the students' home address.

DEADLINES FOR WITHDRAWING FROM SCHOOL TO RECEIVE A REFUND

If Classes Meet for	Deadline for Withdrawal to receive Refund
13-16 weeks	3rd week
9-12 weeks	2nd week
7 or 8 weeks	2nd week
4-6 weeks	1st week
2 or 3 weeks	1st week
less than 2 weeks	2nd day

No refunding of tuition and fees is made for a withdrawal occurring after the deadlines, except as described in the next paragraph.

Special consideration is extended to individuals who leave school for extended military service (6 months or longer). Students will be refunded full tuition and fees paid if they enter military service during the first five weeks of school. If students withdraw during the sixth through tenth weeks of school, they will be refunded half of the paid tuition and fees, and they will receive one-half credit without letter grades for the courses in which they were receiving a passing grade at the time of withdrawal. When the withdrawal occurs after the tenth week, students will receive no refund, but will receive both grades and credit hours for the courses in which they are passing. In all instances, a copy of the military orders or a letter from the commanding officer is required for verification of impending military service. To be eligible for these benefits students must remain in school to within ten days of their military reporting date.

DEFERMENT OF TUITION AND FEES

When a student's financial aid has been delayed, or the funds which a student anticipates using to pay tuition and fees are unavailable by the regular due date for tuition and fee payment, the student may apply for an extension of the payment deadline date through a process called waiver of cancellation. Cancellation waivers are available to students who can demonstrate that they meet minimal eligibility criteria and can provide written verification of an ability to pay. Information on cancellation waivers is publicized each semester in the Office of Admissions and Records, the Bursar's Office, the Student Work and Financial Assistance Office, and the *Daily Egyptian*. Eligibility criteria and procedural guidelines may vary from term to term and year to year. Students are advised to seek out the accurate information rather than assume they qualify.

Students applying for a cancellation waiver must first complete registration. Written verification from the source of funds to be used to pay tuition and fees must be presented in person to the Student Work and Financial Assistance Office for those students with approved scholarships, grants, or loans, or any combination of these. Instances of exceptional need will be referred to a financial aid officer when the source of funds is other than those identified above. Additional information on cancellation waivers is available in the Student Work and Financial Assistance Office. Phone or mail requests will not be accepted.

Grading, Scholastic Regulations, and Credit

Grading System

GRADE SYMBOL	DEFINITION	GRADE POINTS PER HOUR
A,	Excellent	4
B,	Good	3
C,	Satisfactory	2
D,	Poor	1
F,	Failure	0
P,	Pass. Used only in Pass/Fail system. See Grading System Explanation below.	
W,	Authorized withdrawal. See Grading System Explanation below.	
INC,	Incomplete. See Grading System Explanation below.	
AU,	Audit. No grade or credit earned. See Grading System Explanation below.	

GRADING SYSTEM EXPLANATION

The grades of *A*, *B*, *C*, *D*, and *F*, are included in determining student grade point averages.

An *INC* is assigned when, for reasons beyond their control, students *engaged in passing work* are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student's grade point average. Students should not re-register for courses in which an *INC* has been assigned with the intent of changing the *INC* grade. Re-registration will not prevent the *INC* from being changed to an *F*.

The Pass/Fail Grading System is explained further under a separate section below. For *mandatory* Pass/Fail courses, the grades of *P*, when the student's work is satisfactory, or *F*, when the student's work is unsatisfactory, may be recorded. For a *P*, the hours apply toward graduation but the grade does not affect the grade point average. For an *F*, the hours do not apply toward graduation but the grade does count in the grade point average. For *elective* Pass/Fail courses, the instructor of the class will assign regular letter grades of *A*, *B*, *C*, *D*, *F*, or may assign an Incomplete if the work is not finished. The grade of *A* will be recorded as an *A* and will be counted in the grade point average. Grades of *B*, *C*, or *D* will be recorded as *P* and will not be counted in the grade point average although the hours will be counted toward graduation. The grade of *F* will be counted in the grade point average but the hours will not apply toward graduation. If a student receives an *INC* in a Pass/Fail course, the same regulations apply for completion of the work as apply for all other grades of *INC*, as explained above. Students enrolling in *elective* Pass/Fail courses must designate their intent to enroll on a Pass/Fail basis at the time of registration or prior to the end of the third week of a sixteen-week semester and prior to the end of the second week of an eight-week summer session. An equivalent prorated amount of time would be allowed for courses of shorter duration. Students registering for short courses must register for Pass/Fail prior to the beginning of those classes.

Students enrolling for an *Audit* must designate their intent to enroll on an *Audit* basis at the time of registration or prior to the first day of classes. Students

registering for short courses must register for *Audit* prior to the beginning of those classes. Students registering for a course on an *Audit* basis receive no letter grade and no credit. Auditors' Course Request Forms must be marked accordingly, and they pay the same fees as though they were registering for credit. They are expected to attend regularly and to determine from the instructor the amount of work expected of them. If auditing students do not attend regularly, the instructor may determine that the student should not have the audited course placed on the academic record maintained in the Office of Admissions and Records.

WITHDRAWAL FROM COURSES AND FROM THE UNIVERSITY

Students who officially register for a session may not withdraw merely by the stopping of attendance. They need to process an official withdrawal form. Outlined below are the procedures to be followed by students when withdrawing from courses and when withdrawing from the University (all courses for which registered).

If Classes Meet for	Deadline for Withdrawal to Receive Refund	Deadline to Withdraw*
13-16 weeks	3rd week	8th week
9-12 weeks	2nd week	6th week
7 or 8 weeks	2nd week	4th week
4-6 weeks	1st week	3rd week
2 or 3 weeks	1st week	1st week
less than 2 weeks	2nd day	2nd day

*In each instance, one day beyond the time listed will be allowed for processing of the withdrawal. Also, refer to the section on withdrawal from the University for a special provision concerning withdrawal from school beyond the 8th week.

Course Withdrawals. Students officially withdraw from courses through the program change process. This process starts with the academic adviser and is completed at the Registration Center. Official course withdrawals during the first three weeks of the semester result in no entry being made on the student's record. Periods prior to withdrawal deadlines for shorter sessions are correspondingly shorter. Unless a student has processed an authorized withdrawal from a course by the deadline in the schedule above, the student will not be allowed to withdraw from the course. It is the student's responsibility to ensure that the withdrawal process is officially completed. It is probable that a student who does not withdraw by the deadlines, but stops attending during the second half of the semester, will receive grades of *F*.

Withdrawal from the University. The dean of the student's academic unit may authorize a complete withdrawal from the University at any time during the semester prior to the assignment of grades. Students who withdraw from all classes shall have a statement of withdrawal from the University and the week of withdrawal entered on their records.

Students who find it necessary to withdraw from the University after school has started and who are on campus should contact the Office of Student Relations to initiate the withdrawal process. Approval to withdraw should then be obtained from the student's academic dean. If they are unable to come to campus, they may write the Office of Student Relations asking that a withdrawal be processed through the academic dean.

Students who advance register, and pay their tuition and fees, and who then find they cannot attend school must process an official withdrawal the same as do those who withdraw after classes begin. In this case the process is the same as outlined in the paragraph above.

PASS/FAIL GRADING SYSTEM

The purpose of the Pass/Fail grading system is to encourage students to broaden their education by undertaking intellectual exploration in elective courses outside their area of specialization without having to engage in grade competition with students specializing in those courses.

The Pass/Fail grading system for undergraduate students in good academic standing is governed by the conditions listed below:

1. There are two types of Pass/Fail courses: *mandatory* Pass/Fail courses, in which all students will receive either a *P* or an *F*; and *elective* Pass/Fail courses, in which students can elect either the traditional grading system or the Pass/Fail option.
2. No course is available under the Pass/Fail option without prior designation by the department or program in which the course is offered.
3. The Pass/Fail grade is *mandatory* in courses in which, in the judgment of the department or program, the traditional grading system is inappropriate.
4. The Pass/Fail grade is *mandatory* for all proficiency examinations.
5. The number of *elective* Pass/Fail credits is limited to sixteen semester hours overall, and to six semester hours in any General Studies area.
6. Formal permission of the major department or program is required before students are permitted to elect Pass/Fail for a major or minor requirement.
7. Students who earn an *A* in an *elective* Pass/Fail course will have the *A* recorded and counted in the grade point average.
8. The grade of *P* is not computed in the grade point average but the hours earned apply toward graduation. The grade of *F* is computed in the grade point average as a failure but no hours of credit are earned.
9. Instructors who teach *elective* Pass/Fail courses are not informed which students are taking these courses on a Pass/Fail basis.
10. A grade of *D* or higher is required for students to receive a *P*.
11. Students enrolling in elective Pass/Fail courses must designate their intent to enroll on a Pass/Fail basis at the time of registration or prior to the end of the third week of a sixteen week semester and prior to the end of the second week of an eight-week summer session. An equivalent prorated amount of time would be allowed for courses of shorter duration.
12. Only the grades of *A* or *F* earned in Pass/Fail courses are to be included in computing grade point averages for Dean's List.

CHANGING OF GRADES

Grades given at the end of a course are final and may not be changed by additional work or submitting additional materials. When work is completed for a course in which an *INC* grade has been given, instructors notify the Office of Admission and Records of that fact, along with the final grade to be given, by completing a Grade Change Card.

Occasionally, students may wish to question grades given, either for accuracy or for removal of grades in situations when they were unable to perform some required step for reasons beyond their control. Only the assigned instructor for a course has the authority to change a grade except in the instance when the instructor is no longer employed by Southern Illinois University at Carbondale. Extenuating circumstances which transcend faculty judgment of the instructor may be appealed through procedures established by the instructor's school or college. Matters related to faculty judgment in grading may not be appealed. Any change of grade, except for changing an *INC* to a final grade within the time period designated, must be signed not only by the instructor but also by the departmental chairperson and the dean of the academic unit.

Scholastic Standing

The matter of scholastic standing is quite often of importance to students both

while in school and later when they present a transcript of their educational record in support of their application for employment or additional schooling.

At the end of each semester or session of attendance a grade report is prepared for each student showing, in addition to the grades earned that semester or session, the scholastic standing and the grade point average for that semester or session and for the overall record at Southern Illinois University at Carbondale. It is important that students understand the University's system for computing grade point averages and the various grade point average requirements.

Transferred grades are not to be used in determining students' calculated grade point averages, except that transfer students who are admitted on probationary status will be required to earn a 2.0 average semester by semester until a total of 12 semester hours has been earned, before they can be removed from probation.

The significance of the above should be clearly understood by transfer students when studying the general baccalaureate degree requirements. A 2.00 (C) average is required for the work taken at this University.

In computing students' grade point averages all grades of *A*, *B*, *C*, *D*, and *F* are included in determining the number of *calculated* hours. Each hour of these grades (1 hour of *A* is worth 4 grade points) is given its numerical grade points, and the total number of calculated hours is then divided into the total number of grade points to determine the student's grade point average.

Effective with the 1971 summer quarter all earned grades carrying grade point values are considered when computing students' grade point averages, including each earned grade in a repeated course that is taken during the 1971 summer quarter and thereafter. When computing averages through 1971 spring quarter the policy contained in the 1970-71 Undergraduate Catalog is followed.

Transfer from One School or College to Another. Students with less than a *C* (2.0) grade point average who desire to change from one school or college to another will be admitted to the new academic unit only if approved by the dean of that unit.

Scholastic Probation and Suspension System

Students are expected to make satisfactory progress toward a degree, certificate or other approved objective. To ensure that students are making progress their records are checked against the regulations below.

SCHOLASTIC PROBATION

When a student's semester average and the cumulative Southern Illinois University at Carbondale average fall below a *C* average (2.0), the student will be placed on scholastic probation. A student on scholastic probation may continue enrollment at Southern Illinois University at Carbondale provided the student does not accumulate more than six negative points. See Positive and Negative Grade Points below for an explanation of how positive and negative points are calculated. The student with more than six negative points will not be suspended so long as the term average is *C* (2.0) or above. A student will remain in the category of scholastic probation until the cumulative Southern Illinois University at Carbondale average is *C* (2.0) or higher.

While on scholastic probation students may not enroll for more than 14 hours per semester unless approved to do so by the dean of their academic unit. Other limitations may be established by the academic unit within which the students are enrolled.

CONDITIONAL STATUS

Students admitted on condition are on scholastic probation for the term admitted. In addition, they must enroll for a minimum of twelve semester hours and complete ten semester hours of graded work (*A*, *B*, *C*, *D*, *F*). Students admitted on condition who meet the hour requirements will be placed in good standing when they earn a *C* (2.0) average or higher. They will remain on scholastic probation if they earn less

than a *C* average but six or fewer negative points. Students who earn more than six negative points will be scholastically suspended.

TRANSFER STUDENTS ADMITTED ON PROBATION

Transfer students admitted on scholastic probation will remain in that status until they have earned a minimum of 12 semester hours of credit with at least a *C* average at Southern Illinois University at Carbondale. If they earn below a *C* for any session while on scholastic probation, they will be placed on scholastic suspension.

SCHOLASTIC SUSPENSION

Students will be scholastically suspended from Southern Illinois University at Carbondale if they fail to meet the requirements of their conditional or probational status. Students placed on Scholastic Suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken. Some academic units have scholastic requirements in addition to the overall University requirements listed here. Students must learn and comply with the University requirements as well as those requirements applying to individual schools and colleges.

POSITIVE AND NEGATIVE GRADE POINTS

Positive and negative grade points are assigned to grades above or below a *C*. There are two methods to figure points depending upon the information which is available.

Grade Slip Available. The grade slip printed at the end of each semester lists the hours used in calculating the average and the grade points earned. Since *C* has a value of two grade points on a 4 point scale, grade points equalling a *C* average are exactly twice the number of hours calculated. All grade points over that amount are positive grade points. All grade points under the amount are negative grade points.

For example:

<i>Hours Calculated</i>	<i>Grade Points</i>		<i>Grade Point Average</i>
60	120	=	(C) 2.0

Twice the hours calculated equals 120 grade points. This is a *C* (2.0) average. A student with 60 calculated hours and only 115 grade points would have five negative points (1.92 average). A student with 30 calculated hours and 55 grade points would have five negative points (1.83) average.

Grades and Hours of Credit Available. Whenever all grades and hours of credit are known and grade points have not been assigned as on the grade slip, a simple method is to assign positive and negative points as follows:

A = 2 positive points per hour

B = 1 positive point per hour

C = 0

D = 1 negative point per hour

F = 2 negative points per hour

For example:

3 hours of *A* × 2 positive points = 6 positive points

3 hours of *B* × 1 positive point = 3 positive points

3 hours of *C* × 0 points = 0

2 hours of *D* × 1 negative point = 2 negative points

4 hours of *F* × 2 negative points = 8 negative points

The ten negative points are balanced by only nine positive points so the sample has one negative point.

Negative points are also used to easily determine exactly what grades must be earned to raise the average to *C*. For example, a student with eight negative points could raise the average to *C* by earning four hours of *A* grade or eight hours of *B* grade, assuming all other grades earned are *C*.

Credit

UNIT OF CREDIT

Southern Illinois University at Carbondale is on the early semester calendar. All references to hours of credit in this catalog are to semester hours unless otherwise specified. One semester hour of credit is equivalent to one and one-half quarter hours. One semester hour of credit represents the work done by a student in a lecture course attended fifty minutes per week for one semester and, in the case of laboratory and activity courses, the stated additional time.

CLASS STANDING

Southern Illinois University at Carbondale requires students to earn at least 120 semester hours of acceptable credit in order to receive a baccalaureate degree. For academic classification purposes a freshman is a student who has completed fewer than 26 hours; a sophomore, from 26 through 55; a junior, from 56 through 85; and a senior 86 or more.

ACADEMIC LOAD

The University considers 12 hours as the minimum number to constitute fulltime attendance. This is the figure used for enrollment reporting purposes, by the Illinois State Scholarship Commission, and for Public Law 358 on the undergraduate level. Students attending school under some type of scholarship or assistance program that requires them to be enrolled as full-time students should check with the University office administering the program on this point. Further information on Public Law 358 is available at the Student Work and Financial Assistance Office.

Academic load guidelines are as follows:

LOAD	REGULAR SEMESTER	8-WEEK SUMMER SESSION
Minimum load for full time	12	6
Average load	15-16	7-8
Maximum load without dean's approval	18	9
Maximum load ¹	21	11

¹This maximum may be exceeded by very special action of the respective academic dean, and rarely more than once in the student's degree program.

Students on scholastic probation may not take more than 14 hours without approval of the dean of their academic unit. Students employed full-time may not register for more than eight hours.

EXTENSION (OFF-CAMPUS) AND CORRESPONDENCE CREDIT

The University accepts credit earned through extension, off-campus, or correspondence programs toward the bachelor's degree. Not more than 30 semester hours may be taken in correspondence work.

Southern Illinois University at Carbondale does not operate a correspondence program. Correspondence work is accepted when taken from institutions which are regionally accredited if the grade is of *C* quality or better.

The University offers off-campus courses whenever (1) it is apparent there is a need and potential enrollment to justify scheduling, (2) it is possible to obtain a faculty member to instruct the class, and (3) adequate laboratory and library facilities are available.

Persons may enroll for off-campus work on an audit basis provided facilities are available. They must receive permission of the instructor to do so, and they must pay the same tuition as though they were registering for credit.

Further information may be obtained from the Division of Continuing Education.

CREDIT FOR MILITARY EXPERIENCE

Students who have served one year or more of active duty and who have received an honorable discharge may receive two hours of aerospace studies credit, two hours of physical education credit, and two hours of health education credit. Service of six months to one year may result in two hours of freshman aerospace studies credit; less than six months of active service allows no college credit.

Credit will be accepted for DANTES subject standardized courses within the limitations enforced for extension and correspondence work. No credit is allowed for college-level GED tests. In evaluating credit possibilities based upon formal service-school training programs, the recommendations of the American Council on Education as set forth in the U.S. Government bulletin, *Guide to the Evaluation of Educational Experiences in the Armed Forces*, are followed.

In order to receive credit for military service, veterans must present a copy of discharge or separation papers to the Office of Admissions and Records.

Graduation Procedures

The academic requirements for the various baccalaureate degrees are listed in Chapter 3. Presented here are the procedures students expecting to graduate must follow.

Graduation ceremonies are held each year at the end of the spring semester and the summer session. Degree candidates must apply for graduation with the Office of Admissions and Records by not later than the end of the first week of the semester in attendance before the expected graduation date. Candidates who plan to complete requirements at the end of the fall semester should apply for graduation during the first week of the fall semester. Although there is no ceremony at that time, degree candidates who complete requirements will have that fact indicated on their academic records. Application forms are available in the Office of Admissions and Records and may be obtained by mail by writing that office.

A \$10 graduation fee is established for all persons receiving degrees. The fee is payable at the time of application. The fee does not cover the rental fee for the cap and gown or the cost of the invitations. Both of these items are ordered through the University Book Store in the Student Center. Questions regarding the cap and gown and the invitations should be referred to the University Book Store.

In addition to completing the steps for application for graduation, students are responsible for determining that they are meeting all graduation requirements and have no outstanding financial obligation to the University. To assure that students are meeting the academic requirements, each academic unit provides a graduation check-up service through its academic advisement process, through which the satisfying of academic requirements can be verified. Even though the University does provide an academic check on graduating students, this is done primarily to be sure that it is graduating students who have met the requirements. The advising of individual students as to their progress is a service provided them and does not relieve students of their responsibility to make certain they are meeting the requirements. Students should check with their academic advisers as to the procedures they should follow in this matter as they approach graduation.

Attendance at commencement is not compulsory. If you do not plan to attend, notification must be sent to the Office of Admissions and Records. This information is needed for seating arrangements and for mailing purposes.

The University has a Graduation Appeals Committee whose function it is to hear students' petitions to be permitted to graduate even though they have not satisfied all University graduation requirements. The committee hears only those cases involving University requirements for a baccalaureate degree. Appeal relative to a major or academic unit requirement is through the appropriate administrative official. Ordinarily, the Graduation Appeals Committee will give consideration to an appeal only if there is tangible evidence that the matter at issue is of an unusual nature and that it has resulted due to conditions beyond control of the student. Appeal is initiated through the Office of Admissions and Records.

University Recognition of High Scholastic Achievement

A Scholastic Honors Day convocation is held each spring to honor students exhibiting high scholastic achievement. Candidates for a bachelor's degree in May or August who have maintained a grade point average of 3.50 or higher for all of their work through the fall semester of their senior year receive special honor. All other students having a 3.50 average are also honored at the convocation. The 3.50 average is required for all work taken at Southern Illinois University at Carbondale. Transfer students must also have a 3.50 average including work taken at other institutions and Southern Illinois University at Carbondale. Except in the case of graduating students, students must be attending full time to be eligible.

A variety of professional, departmental, and fraternal honorary organizations offer recognition and membership based upon scholastic achievement. Election or selection to most honoraries is noted at the Scholastic Honors Day convocation.

Graduating students with scholastic averages of 3.90 or higher receive University highest honors; those with 3.75-3.89 averages receive University high honors; and those with 3.50-3.74 receive University honors. This is recorded on the students' academic record cards and on their diplomas. The averages are required for the work taken at Southern Illinois University at Carbondale. Transfer students must also have the above indicated averages including work taken at other institutions and Southern Illinois University at Carbondale.

Successful participants in all-campus honors programs which require maintenance of appropriate minimal scholastic standards, such as the University Honors Program receive recognition by notation on their academic records and on their diplomas. Honors courses, individual honors work, and honors curricula, all designed to serve students with high scholastic potential, are offered by departments in the School of Agriculture, the College of Human Resources, the College of Liberal Arts, and the College of Science. A departmental or unit honors program consists of no fewer than six nor more than fourteen semester hours in research or independent study which is counted toward the students' majors. Some honors programs require a comprehensive examination at the end of the junior year and again at the end of the senior year. Grades may be deferred at the end of the first semester, but not from one school year to the next.

At the end of each semester, a dean's list is prepared. The criteria for inclusion on the dean's list is established by each of the academic units. To be recognized as being on the dean's list, the student must have been in attendance full-time (12 semester hours or more) and must have earned the average for the semester which has been specified by the academic unit. If the student has met the criteria established, a notation will appear on the grade slip at the end of the semester.

Program Flexibility for the Student

Southern Illinois University at Carbondale offers students a wide variety of

programs on all higher educational levels. Chapter 4 lists specialized programs available on the associate and baccalaureate levels. In addition, the University gives constant attention to methods whereby it might better serve present day educational needs. Described below are opportunities provided students to either (1) earn credit through means other than the traditional classroom method or (2) develop programs better suited to individual student needs than are the already established programs described in Chapter 4. While greater flexibility is the goal, the University exercises appropriate supervision to ensure the flexibility is accompanied by educational soundness.

Credit by Means other than Classroom Attendance

Several methods are provided for students to earn credit by means other than the traditional classroom method. The methods currently available are described below.

HIGH SCHOOL ADVANCED PLACEMENT PROGRAM

Through the High School Advanced Placement Program high school students who are qualified through registration in an advanced placement course in their high schools or through other special educational experiences may apply for advanced placement and college credit through the Advanced Placement Program of the College Entrance Examination Board. To receive credit, students must earn a grade of 3, 4, or 5.

Ordinarily, the maximum credit granted through advanced placement examinations is fifteen hours. It is nonresident credit, does not carry a grade, and is not used in computing the students' averages. Credit granted at another accredited college or university under this plan is transferable to this University up to a maximum of fifteen hours. Students may appeal to academic deans to be granted more than fifteen hours.

Advanced classes which qualify for this purpose are offered in many high schools in specific subjects such as English composition, foreign languages, history, biology, chemistry, mathematics, and physics. A national examination is given in each subject with the examinations administered through the Educational Testing Service. The examinations are prepared by a national committee of high school and college teachers and are intended to measure the achievement of the student and determine at what point the student should begin college work in the subject.

The credit to be granted at Southern Illinois University at Carbondale is determined by the appropriate department. The following is a listing of courses for which a student may currently receive credit:

1. Physics: credit to be determined in consultation with the chairperson of the Department of Physics.
2. Chemistry: Chemistry 224 and 225 (seven semester hours) or Chemistry 222a,b (eight semester hours.)
3. Biology: GSA 115 (three semester hours)
4. American History: GSB 300 and 301 (six semester hours)
5. European History: History 200 (three semester hours)
6. English: GSD 101 (three semester hours)
7. Foreign languages: credit to be determined in consultation with the chairperson of the Department of Foreign Languages and Literatures.
8. Mathematics: Calculus AB: Mathematics 150 (four semester hours)
Calculus BC: Mathematics 150 and 250 (eight semester hours).
9. Music: credit to be determined in consultation with the director of the School of Music.
10. Art: credit to be determined in consultation with the director of the School of Art.

Further information about the advanced placement program may be obtained from the appropriate regional office of the College Board or by writing The College Board, 888 Seventh Avenue, New York, New York 10019.

COLLEGE LEVEL EXAMINATION PROGRAM

Through the General Examinations of the College Level Examination Program (CLEP), students may apply for credit which will substitute for General Studies courses. With a score of 520 or higher on the appropriate examination, it is possible for students to receive six semester hours of credit in each of the three fields of natural sciences, social sciences and history, and humanities.

A score of 580 or higher is required to pass the mathematics test. With this score students may earn four hours of credit which will fulfill the General Studies mathematics requirement.

With a score of 650 or higher on the CLEP English examination, students are permitted to take GSD 120, Freshman Honors Composition (three semester hours), instead of GSD 101 and GSD 117 (five semester hours). A student who scores 675 or above on the CLEP English examination will receive five semester hours credit (three semester hours GSD 101 and two semester hours GSD 117). A score of 650 to 674 entitles the student to receive (a) advanced placement in GSD 120, Freshman Honors Composition, and (b) five semester hours credit upon the satisfactory completion of GSD 120 with a grade of C or higher (three semester hours GSD 120 and two semester hours GSD 117).

If, prior to taking the CLEP examination, students have received a grade or audit in college level work in any discipline included in the CLEP exam or if they have enrolled in such a course, they shall be ineligible for credit. Exceptions: a) An exception to this rule is made in the case of students who enroll in the Early Admission or ALPHA programs. Such students receive university credit for courses taken during the early admission or ALPHA experience and for the CLEP credit earned. b) Since a review of the content of the CLEP examinations in social sciences and in humanities demonstrates Black American history is not included as a part of the examinations, an exception is made to the definition of the content of the CLEP in social sciences and humanities to exclude Black American history. This means that a student is eligible to be granted credit in social sciences or in humanities if the appropriate score is received on the CLEP examination, even though the student may already have been granted credit in Black American history.

The science exam includes botany, microbiology, physiology, zoology, chemistry, physics, earth science, geography, and all General Studies Area A courses. The social sciences and history exam includes western civilization, American history, Afro-Asian civilization, world history, political science, economics, anthropology, sociology, social psychology, social studies, and all General Studies Area B courses. The humanities exam includes literature — poetry, fiction, drama, nonfiction, creative writing; films and performing arts; art — art appreciation, art history, architecture (past and present); music — classical, modern or jazz; humanities — all general humanities courses; all General Studies Area C courses; philosophy — aesthetics, ethics, general survey. The mathematics test includes all college-level mathematics.

Students may be exempted from all General Studies requirements if they (1) pass all five CLEP General Examinations before entering the University with these minimum scores: natural sciences, social sciences, and humanities, 520; English, 675; and mathematics, 580, and (2) become members of the University Honors Program. No retroactive extension of this CLEP privilege will be allowed.

For further information, students should consult with their academic adviser.

CLEP examinations should be taken at one of the national testing centers and the results sent to the local CLEP coordinator. The results are then forwarded to the Office of Admissions and Records for evaluation.

PROFICIENCY EXAMINATIONS

Through its proficiency examination program the University recognizes the importance of providing encouragement for academically talented students. Such students are permitted to make application to demonstrate the mastery of certain courses through proficiency examinations. Application forms are available at the departmental offices.

The following general rules govern the proficiency examinations for undergraduate credit.

1. Students who believe they are qualified to take a proficiency examination should check with the department offering the course to determine their eligibility to do so; students scoring in the top ten percent of ACT are particularly encouraged to avail themselves of this opportunity.
2. Credit not to exceed thirty hours (fifteen hours toward an associate degree), including credit through the College Entrance Examination Board, Advanced Placement Program, and the College Level Examination Program may be earned through proficiency examinations. Credit will be nonresident. (A combined total of 40 hours may be earned through proficiency examinations and credit for work experience.)
3. Upon passing proficiency examinations students are granted course credit and receive *Pass* grade. Their records will show the name of the course, the hours of credit granted, and a notation "credit granted by proficiency examination." Students who fail a proficiency examination receive a *Fail* grade. This results in no penalty to the students. They will not receive credit and their records will show nothing regarding the proficiency examination. However, the proficiency examination grade report form will be filed in the students' folders for reference purposes.
4. Students may not take proficiency examinations for the same course more than one time. Neither may they take a proficiency examination in a course in which they have previously received a grade.
5. No credit granted by proficiency examinations will be recorded until the student has earned at least 12 hours of credit of *C* grade or above in residence at Southern Illinois University at Carbondale.

CREDIT FOR WORK EXPERIENCE

Southern Illinois University at Carbondale recognizes that there might well be a number of undergraduate programs for which work experience has a meaningful relationship. It, therefore, permits those undergraduate programs to grant credit for work experience that relates to students' areas of specialization. The credit granted is to apply to the major program and is awarded only upon approval by the major departments. Credit earned by work experience is limited to 30 hours and any combination of credit for proficiency examinations and credit for work experience is limited to 40 hours. Credit granted for work experience is considered nonresident credit when granted for work that is not part of a regular instructional course. Students should consult with their major departments to see whether they approve credit for work experience.

Three-Year Baccalaureate Degree Program

It is possible for students to complete the regular four-year baccalaureate degree program in three years by utilizing proficiency examinations. The equivalent of one year of credit (30 semester hours) may be earned by this method. Students who desire to follow the three-year program should make that fact known to their academic advisers at the earliest possible date so their eligibility can be determined. A combination of programs may be employed to accumulate these 30 hours

as described above in the section on Credit by Means Other than Classroom Attendance.

Cooperative Education Program

The Cooperative Education Program, included in the Career Planning and Placement Center, is an optional educational pattern that provides an opportunity for students to alternate periods of academic study with periods of off-campus employment related to the student's academic majors or career goals. Periods should be of sufficient duration to provide meaningful classroom and off-campus experiences. Cooperative education provides students an opportunity to earn funds that may be needed to support and complete their education, while it gives them off-campus experiences that are closely integrated with and that enrich their total education.

University Honors Program

The University Honors Program is designed to enable academically talented undergraduate students to undertake specially designed and challenging classes; to fulfill University and college requirements by participating in independent studies, colloquia and advanced courses; and to elect interdisciplinary, extracurricular, and cocurricular activities sponsored and administered especially for academically qualified students. Some special scholarships and internships are available to University Scholars.

Honors sponsors and University Honors staff assist qualified students in designing individualized programs tailored to needs, interests, and talents.

Membership in the University Honors Program is granted to entering freshmen who apply for membership and who have achieved a superior scholastic record in high school, upper ten percent of graduating class and an ACT composite score in the 90th percentile. The dean of General Academic Programs may also admit a freshman to membership in the University Honors Program on the basis of other factors, including high school experiences, letters of recommendation, or other evidence of exceptional promise. Membership may be granted to other than entering freshmen who apply for membership and who have a superior academic record such as a cumulative grade point average in the upper ten percent for students at a comparable point in their academic studies.

Members of the University Honors Program are designated as University Scholars. Retention in the University Honors Program depends upon maintaining a 3.25 cumulative grade point average in all coursework and no failing grades in honors courses. Students are kept aware of their status in the program at all times.

University Scholars should enroll in an average of one honors experience per semester and maintain normal progress toward a degree. Normal progress is defined as 24 semester hours per academic year. A minimum of 15 hours of honors work is required as a University Scholar. A University Scholar not engaged in a departmental honors program must complete an honors thesis during the senior year. Substitutions for this requirement may be arranged for a student in a major which does not allow curricular flexibility.

University Scholars may complete the General Studies requirements of the University by enrolling in advanced courses in departments which offer General Studies classes. With the close cooperation of the honors sponsor, individual options may be exercised which fulfill the spirit of General Studies requirements but, to challenge the University Scholar, may depart from standard University requirements. University Scholars are permitted to waive some University requirements when they have CLEP scores at an appropriate level.

Baccalaureate degrees for University Honors Program participants are awarded through the regular degree granting units.

Inquiries about the program should be addressed to the director of honors opportunities.

Technical Careers Degree Program

The University provides an opportunity to continue educational pursuits toward a baccalaureate degree for students possessing an occupational, technical, or other similarly connotated educational background. The School of Technical Careers offers a Bachelor of Science degree for such students. Programs are available to meet the needs of students in relation to their career interests and goals. The regular University baccalaureate admission and other academic requirements and regulations are followed in the technical careers program.

The School of Technical Careers offers educational programs at selected military bases and at other off-campus locations in addition to its on-campus programs. Persons interested in further information concerning the School of Technical Careers should contact the dean, School of Technical Careers, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. See also School of Technical Careers in Chapter 3.

University Studies Degree Program

The University Studies degree program permits students an additional option toward the baccalaureate degree. The program is intended for the student seeking an individualized education and who does not wish a major on the undergraduate level. Students may work toward either a Bachelor of Arts or Bachelor of Science degree in University Studies.

Students interested in the University Studies program should consult with the program director in General Academic Programs for more information. See the description in Chapter 4.

Special Major Program

Individual students with academic needs not met in any of the existing majors within the University may arrange a program of courses more suited to their special requirements. See the description of the Special Major in Chapter 4.

Capstone Program

The Capstone Program has been developed for students who completed a two year vocational or technical program and then change their educational goals to include the pursuit of a baccalaureate degree. The program attempts to plan an individualized course of study for each student which will allow completion of a bachelor's degree with two additional years of credit beyond an associate degree. Chapter 3 includes information about provisions of the Capstone Program, admission requirements, and those academic units and majors which participate in the Capstone Program. Not all units and majors provide the Capstone option to this kind of applicant.

Opportunities for Study Abroad

There are five alternatives available to Southern Illinois University at Carbondale students for studying abroad.

1. A student may enroll in a Southern Illinois University study/travel program. These programs include academic courses where regular University credit is awarded to students every summer with varied opportunities available. Announcements concerning the coming summer programs are usually available in the Division of Continuing Education about the first of each year.

2. A student may study abroad through an experiment in international living/SIU cooperative program. The Experiment in International Living is an accredited educational institution located in Brattleboro, Vermont.

3. A student may travel and study abroad on an independent basis. Prior arrangements can be made through departments to enroll in study abroad courses available in selected departments or in the course, University 388.

4. A student may enroll in a study/travel program conducted by another United States institution and transfer the credit to this institution. Information concerning programs offered by United States institutions can be obtained from the coordinator for international travel and study in the Division of Continuing Education.

5. A student may enroll in either a foreign institution or an independent location of a foreign institution. The student should check with the Office of Admissions and Records before registering since many foreign institutions are not accredited.

Determination of Residency Status

The following is a direct quotation from the Board of Trustees' "Residency Status Policies", which govern the determination of residency status for admission and assessment of student tuition.

For the purpose of these regulations an *adult* is considered to be a student eighteen years of age or over; a *minor* student is a student under eighteen years of age. The term *the State* means the State of Illinois except in the following instances: (1) For the purposes of assessing undergraduate- and graduate-level student tuition, the Presidents, with the agreement of the Chancellor, may take the term "the State" to include the Kentucky Counties of Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall, Trigg, and Union. (2) For the purposes of assessing undergraduate- and graduate-level student tuition for not more than six semester or nine quarter hours, the Presidents, with the agreement of the Chancellor, may take the term "the State" to include the State of Missouri. Neither exception may apply to the assessment of tuition at the School of Dental Medicine, the School of Law, or the School of Medicine. Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for resident status as defined in these regulations the nonresident status shall be assigned.

Residency Determination

Evidence for determination of residence status of each applicant for admission to the University shall be submitted to the Director of Admissions at the time of application for admission. A student may be reclassified at any time by the University upon the basis of additional or changed information. However, if the University has erroneously classified the student as a resident, the change in tuition shall be applicable beginning with the term following the reclassification; if the University has erroneously classified the student as a nonresident, the change in tuition shall be applicable to the term on which the reclassification occurs, provided the student has filed a written request for review in accordance with these regulations. If the University has classified a student as a resident based on false or falsified documents, the reclassification to nonresident status shall be retroactive to the first term during which residency status was based on the false or falsified documents.

Adult Student

An adult, to be considered a resident, must have been a bona fide resident of the State for a period of at least three consecutive months immediately preceding the

beginning of any term for which he registers at the University, and must continue to maintain a bona fide residency in the State, except that an adult student whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

Minor Student

The residence of a minor shall be considered to be, and to change with and follow:

a. That of the parents, if they are living together, or living parent, if one is dead; or

b. If the parents are separated or divorced, that of the parent to whom the custody of the person has been awarded by court decree or order, or, in the absence of a court decree or order, that of the parent with which the person has continuously resided for a period of at least three consecutive months immediately preceding registration at the University; or

c. That of the adoptive parents, if the person has been legally adopted and, in the event the adoptive parents become divorced or separated, that of the adoptive parent whose residence would govern under the foregoing rules if that parent had been a natural parent; or

d. That of the legally appointed guardian of the person; or

e. That of the *natural* guardian, such as a grandparent, adult brother or adult sister, adult uncle or aunt, or other adult relative with whom the person has resided and by whom he has been supported for a period of at least three consecutive months immediately preceding registration at the University for any term, if the person's parents are dead or have abandoned said person and if no legal guardian of the person has been appointed and qualified.

Parent or Guardian

No parent or legal or natural guardian will be considered a resident of the State unless said person (a) maintains a bona fide and permanent place of abode within the State, and (b) lives, except when temporarily absent from the State with no intention of changing his legal residence to some other State or country, within the State.

Emancipated Minor

If a minor has been emancipated, is completely self-supporting, and actually resides in the State, the minor shall be considered to be a resident even though the parents or guardian may reside outside the State. An emancipated minor who is completely self-supporting shall be considered to actually reside in the State of Illinois if a dwelling place has been maintained within the state uninterrupted for a period of at least three consecutive months immediately preceding the beginning of any term registration at the University. Marriage or active military service shall be regarded as effecting the emancipation of minors, whether male or female, for purposes of this regulation. An emancipated minor whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

Married Student

A nonresident student, whether male or female, or a minor or adult, or a citizen or noncitizen of the United States, who is married to a resident of the State, may be classified as a resident so long as the individual continues to reside in the State; however, a spouse through which a student claims residency must demonstrate

residency in compliance with the requirements applicable to students seeking resident status.

Persons Without United States Citizenship

A person who is not a citizen of the United States of America, to be considered a resident, must have permanent residence status with the United States Immigration and Naturalization Service and must also meet and comply with all the other applicable requirements of these regulations to establish resident status.

Armed Forces Personnel

A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a resident as long as the person remains stationed and present in Illinois. If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

A person who is actively serving in one of the Armed Forces of the United States and who is stationed outside the State may be considered a resident only if the individual was a resident of the State at the time of entry into military service except as otherwise specified by Board policy.

A person who is separated from active military service will be considered a resident of Illinois immediately upon separation providing this person: (a) was a resident of the State at the time of enlistment in the military service, (b) became treated as a resident while in the military by attending school at Southern Illinois University while stationed in the State, or (c) has resided within the State for a period of three months after separation.

State and Federal Penitentiary

A person who is incarcerated in a State or Federal place of detention within the State of Illinois will be treated as a resident for tuition assessment purposes as long as said person remains in that place of detention. If bona fide residence is established in Illinois upon release from detention, the duration of residence shall be deemed to include the prior period of detention.

Minor Children of Parents Transferred Outside the United States

The minor children of persons who have resided in the State for at least three consecutive months immediately prior to a transfer by their employers to some location outside the United States shall be considered residents. However, this shall apply when the minor children of such parents enroll in the University within five years from the time their parents are transferred by their employer to some location outside the United States.

Dependents of University Employees

The spouses and dependent children of all staff members (academic, administrative, non-academic) on appointment with the University shall be considered as resident students for purposes of tuition assessment.

Contractual Agreements

The Presidents, with the approval of the Chancellor, may enter into agreements with other institutions in or out of state under the terms of which students at the other institutions are defined as residents of the State of Illinois.

Definition of Terminology

To the extent that the terms *bona fide residence*, *independent*, *dependent*, and *emancipation* are not defined in these regulations, definitions shall be determined

by according due consideration to all of the facts pertinent and material to the question and to the applicable laws and court decisions of the State of Illinois.

A bona fide resident is a domicile of an individual which is the true, fixed, and permanent home and place to which, whenever absent, the individual has the intention of returning. Criteria to determine this intention include but are not limited to year around residence, voter registration, place of filing tax returns (home state indicated on federal tax return for purposes of revenue sharing), property ownership, driver's license, car registration, vacations, and employment.

Procedure for Review of Residency Status or Tuition Assessment

A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file a claim in writing to the appropriate official for a reconsideration of residency status and an adjustment of the tuition assessed. The written claim must be filed within 30 school days from the date of assessment of tuition or the date designated in the official University calendar as that upon which instruction begins for the academic period for which the tuition is payable, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question. If the student is dissatisfied with the ruling in response to the written claim made within said period, the student may appeal the ruling to the President or his designee by filing with the appropriate official within twenty days of the notice of the ruling a written request.

Policy on the Release of Student Information and Access to Student Records at Southern Illinois University at Carbondale

I. Purpose

Southern Illinois University at Carbondale, hereinafter referred to as the University, maintains individual records and information about students for the purpose of providing educational, vocational, and personal services to the student. For the purpose of complying with federal regulations regarding the maintenance of confidentiality of student educational records, as required by the Family Educational Rights and Privacy Act of 1974, the following policy has been enacted.

II. Definitions

- A. "Student" is defined as a person who is or has been enrolled at Southern Illinois University in a course of study either on campus or off campus. Solely for purpose of this policy, any student attending Southern Illinois University will be considered to be an adult and to have sole control over the release of his/her information except as provided in this policy. The term "enrolled" is defined as having registered and paid fees into a course of study.
- B. "Education records" means those records which are directly related to a student, and are maintained by Southern Illinois University or any subunit or by any party acting for Southern Illinois University. The term does *not* include:
 - 1. Personal records of instructional, supervisory, and administrative personnel which are not revealed to other individuals.
 - 2. Records of a law enforcement unit of an educational institution which are maintained apart from the education records, maintained solely for law enforcement purposes, and are not disclosed to individuals other than law enforcement officials of the same jurisdiction.

For purposes of this policy, the Southern Illinois University Security Office will be treated as an outside agency and will therefore be required to comply with all regulations relating to the disclosure of information from students' educational records, as set forth in the policy.

3. Employment records, so long as they are maintained separately from any educational record.
 4. Records of a physician, psychologist, or other recognized professional or paraprofessional acting in his or her professional capacity which are used only in connection with treatment and are not disclosed to individuals other than those providing the treatment; *Provided*, that these records can be personally reviewed by a physician or other appropriate professional of the student's choice.
 5. Records which contain only information relating to a person after that person was no longer a student at Southern Illinois University, such as alumni files.
- C. "Student Information" means any information contained in an educational record as defined in II. B.
- D. "Personally identifiable information" includes:
1. The name of a student, the student's parent, student's spouse, or other family member.
 2. The address of the student.
 3. A personal identifier such as the student's social security number or student number.
 4. A list of personal characteristics which would make the student's identity easily traceable.
 5. Other information that would make the student's identity easily traceable.
- E. "Directory information" includes:
1. Student name.
 2. Student local address and telephone number.
 3. Student home address and telephone number.
 4. Current term hours carried.
 5. Classification (freshman, sophomore, etc.)
 6. Academic unit.
 7. Major.
 8. Date of attendance.
 9. Degrees and honors earned and dates.
 10. The most previous educational agency or institution attended prior to enrollment at Southern Illinois University.
 11. Participation in officially recognized activity or sport.
 12. Weight, height, and pictures of members of athletic teams.
 13. Date of birth.
 14. Picture.

III. Basic Policy Regarding Disclosure of Information from Educational Records

- A. Disclosure not requiring prior consent
1. The appropriate recordkeeping office shall obtain the written consent of the student before disclosing personally identifiable information from the records of a student, except in the case of directory information or disclosures to:
 - a. The student himself/herself.
 - b. University personnel who have a legitimate educational need to permit their functioning or research. The sufficiency of the need

will be determined by the head of the unit from which the records are sought.

Student information supplied to any Southern Illinois University personnel or unit is provided on the basis that it is needed to permit their necessary functioning. All members of the faculty, administration, and clerical staff must respect confidential information about students which they require in the course of their work. They are bound by the conditions outlined in this policy statement relative to the release of student information. All institutional personnel should be alert to refer promptly to the appropriate office requests for transcripts, certifications, or other information which that office typically provides. They should restrict their responses to acknowledging, when appropriate, the receipt of requests for student information germane to their sphere of responsibility.

- c. Officials of other schools or school systems in which the student seeks or intends to enroll, if there is a legitimate need. The sufficiency of the need will be determined by the head of the unit from which the records are sought. A copy of any information sent will be provided to the student upon request.
 - d. Faculty or students conducting student characteristic research providing the research project has written approval of the academic unit executive officer sponsoring the research and providing guarantees are made that no personally identifiable information will be published or released.
 - e. Certain state and federal representatives specified by law for the sole purpose of evaluation and auditing of governmentally funded programs in which the University participates, with the guarantee that the identity of the students will be protected.
 - f. State and local officials as directed by the State Statute adopted prior to November 19, 1974, as approved by University Legal Counsel.
 - g. Organizations conducting studies for, or on behalf of, state or federal educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction, with the guarantee that the identity of the student shall be protected.
 - h. In connection with financial aid for which the student has applied or received.
 - i. Accrediting organizations to carry out their accrediting function, with the guarantee that the identity of the student shall be protected.
 - j. Appropriate persons in connection with an emergency, if knowledge of such information is necessary to protect the health or safety of a student or other persons.
 - k. Comply with a judicial order or subpoena, but the University should make a reasonable effort to notify the student first. The sufficiency of the order or subpoena will be determined by University Legal Counsel and that office shall send the required notice to the student.
- B. Disclosure Requiring Prior Consent
1. Except as listed in A above, all requests for student information other than directory information must be accompanied by a written consent of the student.
 2. The written consent required by this section must be signed and

dated by the student giving the consent and shall include (a) a specification of the records to be disclosed, and (b) the party or parties to whom the disclosure may be made.

3. When the disclosure is made pursuant to this section, the appropriate recordkeeping office shall, upon request, provide a copy of the records which are disclosed to the student.
4. Student information will not be released to parents of students without the student's permission.

C. Disclosure of Directory Information

Directory information pertaining to students may be released by the University at any time provided that it publish the definition at least once each academic year in the campus student newspaper or other designated publication with wide circulation, and the individual student is given a reasonable period of time to inform the University in writing, through the Office of Admissions and Records, that he/she does not wish such information concerning himself/herself to be released without his/her prior consent. The Office of Admissions and Records will be responsible for identifying or deleting all information which the student desires not to be released outside the University and for informing all University recipients of that information that such information is not to be released. The student must request deletion of information each year.

The procedural requirements of this section do not apply to the disclosure of directory information from the education records of an individual who is no longer in attendance at the University. Thus, the University (or appropriate recordkeeping office) is not required to give public notice of the above to former students.

All recipients of student information will be bound by this policy. Lists of student information are never knowingly provided to any requesting party for a commercial or political purpose. If a student directory is published, it shall be equally available to all.

D. Records of Disclosure Made

Records of disclosure are not required to be kept in the record of a student when the disclosure is initiated by the student himself/herself.

The University may disclose personally identifiable information from the education records of a student only on the condition that the party to whom the disclosure is made will not further disclose the information without the student's written consent, except in the case of disclosure of directory information.

The University shall, except for the disclosure of directory information, inform the party to whom disclosure is made of the obligation to receive the student's consent before further disclosure to other parties.

E. Waiver of Right to Inspect and Review Education Records

1. The student may waive his/her right to inspect and review education records. The waiver, in order to be valid, must be in writing and signed by the student. The University (or each appropriate recordkeeping office) may not require a waiver of rights but it may request such a waiver.
2. If a student has waived his/her right to see confidential letters of recommendation placed in his/her record after January 1, 1975, the waiver will be effective only if: (a) the applicant or student is, upon request, notified of the names of all individuals providing the letters or statements; (b) the letters or statements are used only for the purpose for which they were originally intended, and (c) such waiver is not required by the University as a condition of admission to or receipt of any other service or benefit from the University.

3. A waiver may be revoked, but the revocation must be in writing and signed by the student. Revocation of waiver will affect only documents received after its execution.

IV. Identification and Description of Student Information

A. Academic Records

The Office of Admissions and Records retains the official academic record of a student. It is a cumulative history of a student's admission, registration, and academic participation and performance. Certain biographic and demographic information is also kept for identification for enrollment and research-related purposes. For information concerning these records contact the Director of Admissions and Records.

Academic records may also be maintained in academic units, departments, and divisions. For information concerning these records contact the head of the academic unit, department, or division in question. The Office of Institutional Research also maintains some academic records.

B. Financial Records

Offices within the Business area maintain certain financial records which relate to the payment and accounting of tuition, fees, and other charges. They also maintain records which record student loans and grants. For information concerning these records, contact the Bursar's Office.

For billing purposes, the Office of Admissions and Records maintains a record of financial aid received and tuition and fees paid. For information concerning these records, contact the director of Admissions and Records.

The Office of Student Work and Financial Assistance maintains records of students receiving loans, grants, and aid along with scholarship information and some academic information. It also maintains records pertinent to student employment including the family financial statement. For information concerning these records, contact the Director of Student Work and Financial Assistance.

The Housing Office maintains records of housing accounts. For information concerning these records, contact the Director of Housing.

C. Medical/Counseling/Clinical Center Records.

The University Health Service maintains medical records of students who have required medical assistances through the student health program. Only information pertinent to the health of the individual is contained therein. For information concerning these records, contact either the administrative director or the medical director of Student Health.

The University Counseling Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the director of Counseling Center.

The University Clinical Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the director of the Clinical Center.

D. Disciplinary Records

The Office of Student Affairs maintains records of disciplinary action which has been taken against a student with documentation pertaining thereto. That office also maintains only the academic information necessary to permit its functioning. For information concerning these records, contact the dean of Student Life.

E. Placement Records

The Office of Career Planning and Placement creates a record for those

persons who wish to avail themselves of its services, with student's voluntary participation. This information is distributed to potential employees. It consists of self-completed resumes and various personal references. For information concerning these records, contact the director of Career Planning and Placement.

V. Access to Records

A. Right to Inspect or Review Educational Records

1. The student has the right to physically review his records in the presence of a designated University representative.
2. Requests for review may be required to be submitted in writing to the appropriate office.
3. That office shall comply with the request within a reasonable time, but in any case, compliance shall be no more than thirty (30) days after the receipt of the request.
4. Where necessary, interpretation of the record shall be provided by qualified University personnel.
5. Original records cannot be removed from University premises. A copy will be provided if requested, but only if not providing a copy would preclude review of the educational records by the student.
6. Copies of transcripts from other educational institutions will be provided only if the original source of those transcripts is no longer available or going to the original source would cause undue hardship as determined by this University.

B. Limitations on Right to Inspect or Review

1. The student may not inspect the following records:
 - a. Financial records and statements of their parents.
 - b. Confidential letters or materials placed in records before January 1, 1975 so long as they were solicited with an understanding of confidentiality and are used only for the purpose for which they were written.
 - c. Confidential letters of recommendation and confidential statements of recommendation placed in the education records of the student after January 1, 1975, are subject to the student's right to inspect and review unless the student has signed a written waiver.
2. Reports that involve two or more persons may be censored to protect the identity of the other person(s).

C. Administrative Hold on University Records

On occasion it is necessary for a University to place an administrative hold on a student's ability to request a transcript, to register for a subsequent term, to reenter the University after a period of attendance interruption, or to be officially graduated.

In cases where an administrative hold has been placed on a student's record, the student may view such records but will not be able to obtain a copy of said record until the administrative hold is removed through the appropriate University channels.

VI. Challenging Contents of a Student's Educational Record

A. Purpose

A student has the right to challenge the content of a record on the ground that he/she believes it is inaccurate, misleading, or otherwise in violation of his/her privacy or other rights and to have inserted in the record his/her written explanation of its contents. Academic grade review procedures are covered in the University Catalog and/or such particular academic unit, department or division and not by this policy.

B. Procedure

To initiate such a challenge, the student shall, within sixty (60) days after he/she has inspected and reviewed the record in question for the first time, file with the University office responsible for maintaining such record a written request for correction, on a form specified by the University. Within thirty (30) days following receipt of such request, the head of such office, or his/her representative, shall review the record in question with the student and either order the correction or deletion of such alleged inaccurate, misleading, or otherwise inappropriate data as specified in the request or notify the student of the right to a hearing at which the student and other persons directly involved in the establishment of the record shall have an opportunity to present evidence to support or refute the contention that the data specified in the request are inaccurate, misleading, or otherwise inappropriate.

C. Hearing

The student shall be given written notice sent to his/her last known address of the time and place of such hearing not less than ten (10) days in advance. The hearing will be conducted by a University representative who does not have a direct interest in the outcome. The student might well challenge the hearing officer. Any disagreement regarding the hearing officer will be resolved by the appropriate Vice President.

The student shall have the right to attend the hearing, to be advised by an individual of his/her choice at his/her own expense, including an attorney, and to call witnesses in his/her behalf. The student shall be notified in writing of the decision within ten (10) days following the hearing or within five (5) days of a decision without a hearing. Such decision is final. The decision reached shall be based solely upon the evidence presented at the hearing and shall include a summary of the evidence and reasons for the decision.

(Note: A hearing may not be requested by a student to contest the assignment of a grade; however, a hearing may be requested to contest whether or not the assigned grade was recorded accurately in the education records of the student.)

VII. Destruction of Records

A. The University may destroy education records when they are no longer necessary, with the following limitations:

1. Education records may not be destroyed if there is an outstanding request to inspect and review them.
2. Explanations placed in the record by the student and the record of disclosure of information must be maintained as long as the education record to which it pertains is maintained.

VIII. Right to File Complaints

A. If the student thinks his or her rights have been violated, he or she should first file a complaint with the head of the office which maintains the records in question.

B. After exhausting all the internal remedies available within the University, if the student still thinks his or her rights have been violated, written complaints can be filed with:

The Family Educational Rights and Privacy Act Office
Department of Health, Education, and Welfare
330 Independence Avenue S. W.
Washington, D.C. 20201

The office shall notify the complainant and the University of the receipt of the complaint and an investigation will follow.

Issuance of Transcripts

A transcript of the student's official educational record is issued by the Office of Admissions and Records under the following conditions: A transcript is sent, issued, or released only upon a student's request or with the student's explicit permission, except that such permission is not required when University faculty and administrative personnel or other educational institutions request transcripts for official purposes. In addition, requests will be honored from a philanthropic organization financially supporting a student and from a recognized research organization conducting educational research provided the confidential character of the transcript is protected. A transcript will be issued directly to a student upon request. The transcript will have the statement, Issued to the Student, stamped on its face. Transcripts will be sent without charge to recipients other than the student as requested, in writing, by the student. A transcript will not be sent, issued, or released if a student owes money to the University.

Student Conduct Code

The University, through the Student Conduct Code, provides protections which promote and strengthen the learning process. The code is designed to create and maintain an environment conducive to the educational mission of the University. As an educational tool, the code identifies rights and responsibilities of students. Sanctions, when used, are intended for educational growth rather than punitive effect. The administrative responsibility for implementing, enforcing, and evaluating the code is assigned to the Student Life Office.

Each student is expected to know the code which is published in the *Daily Egyptian* and available in brochure form in the Student Life Office. All charges are filed by the Student Life Office on behalf of the reporting party or victim and charges may be dropped only by the Student Life Office. All students charged with a violation of the code have a choice between a judicial board hearing and an administrative hearing. This choice exists at all levels of adjudication. Initial jurisdiction hearings are held at the residence hall level on all incidents occurring within the living area, regardless of where the student lives. Initial jurisdiction hearings are held at the campus level for all other incidents. An appeal procedure is provided to insure appropriate consideration for each case.

Further details about the code and the judicial procedures are made available to any student charged with a violation. Students may also visit the Student Life Office, Building T-40, for additional information.

3 Academic Programs

Degrees Offered

Southern Illinois University at Carbondale grants the following degrees:

ASSOCIATE

Associate in Applied Science

BACCALAUREATE

Bachelor of Arts

Bachelor of Music

Bachelor of Science

ADVANCED

Master of Accountancy

Master of Arts

Master of Business Administration

Master of Fine Arts

Master of Music

Master of Music Education

Master of Public Affairs

Master of Science

Master of Science in Education

Specialist Degree

Doctor of Business Administration

Doctor of Philosophy

Doctor of Rehabilitation

In addition to the above degrees, Southern Illinois University at Carbondale offers undergraduate courses in preprofessional areas.

The School of Law and the School of Medicine offer professional degrees. Information about the School of Law may be obtained by writing the dean, School of Law, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. Information about the School of Medicine may be obtained by writing the dean, Southern Illinois University School of Medicine, P.O. Box 3296, Springfield, Illinois 62708.

For information concerning academic programs on the advanced degree level, refer to the Graduate Catalog or write the dean, Graduate School, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Degree Requirements

Associate Degree

Each candidate for an associate degree must complete a minimum of 60 hours of credit in approved courses. Each student must maintain a *C* average. In addition to the technical courses each program requires certain General Studies courses to be taken. The degree granting unit for the associate degree is the School of Technical Careers.

Baccalaureate Degree

Each candidate for a bachelor's degree must complete the requirements listed below.

Hour Requirements. Each student must have earned a minimum of 120 semester hours of credit, although some programs may require more. Of the 120 hours, at least 60 must be earned at a senior-level institution. All credit granted may be applied toward the 60-hour requirement unless the credit has specifically been designated as being from a community college. Credit for work experience, CLEP, military credit, and proficiency examination credit awarded by an accredited senior-level institution are counted toward the 60-hour requirement.

Residence Requirements. Each student must complete the residence requirement by taking the last year, which is defined as 30 semester hours, or by having three years of credit, which is defined as 90 semester hours at Southern Illinois University at Carbondale. Only credit for those courses for which the student has registered and for which a satisfactory grade has been recorded at Southern Illinois University at Carbondale may be applied toward the residence requirement hours.

Average Requirements. Each student must have a *C* average for all work taken at Southern Illinois University at Carbondale and a *C* average for all major work taken at Southern Illinois University at Carbondale.

The University has adopted a policy for students whose only graduation problem concerns the *C* average for all work taken at Southern Illinois University at Carbondale. Such students may ask that the average be computed by one of the following methods: (1) by excluding from calculation of the grade point average a maximum of ten semester hours of *D* or *F* grade earned outside the major which was taken prior to the last 60 semester hours of completed work at Southern Illinois University at Carbondale or, (2) by earning a grade point average of 2.10 or higher for the last 60 semester hours of work completed at Southern Illinois University at Carbondale. The student will be graduated if the average meets either of the two alternatives. It should be noted that the two alternatives are offered as a means of computing the grade point average for graduation only and may not be used for any other purpose.

Course Requirements. Each student must meet the University requirements and the requirements of the academic unit, the major, and the minor, if required. The General Studies requirements which are explained later in this chapter total 45 semester hours of credit although there are methods available to reduce the number for certain students. The requirements of each academic unit are also listed in this chapter, while the requirements for the specific major and minor programs are explained in Chapter 4.

Second Bachelor's Degree

A student may earn a second bachelor's degree upon completion of a minimum of 30 hours, making a total of 150 hours minimum, provided the student fulfills the requirements of the department and college or school for the second bachelor's degree. Students pursuing a second baccalaureate degree must meet the General Studies requirements of 45 semester hours if the department or school or college so requires. Students may, however, complete a second bachelor's degree under the Capstone Program if the department offers this option for the first baccalaureate degree. If a student's first bachelor's degree is from another university, 30 hours in

residence is required to fulfill the requirements for the second bachelor's degree. If the first bachelor's degree was earned at Southern Illinois University at Carbondale, a minimum of 10 semester hours of the 30 required must be taken in residence at the University.

Preprofessional Programs

Preprofessional students may, subject to certain conditions, obtain a bachelor's degree after three years' work (90 semester hours) at Southern Illinois University at Carbondale and one or more year's work in a professional school. During their three years of residence at Southern Illinois University at Carbondale, they need to have completed all requirements other than elective hours for the bachelor's degree which they are seeking.

In some cases the completion of major requirements is possible by their taking certain courses at the professional school, but this is permitted only upon the prior approval of the appropriate divisional head. Also, there needs to be completion of at least one year of professional school with acceptable grades in an approved medical school, an approved dental school, an approved veterinary school, an approved law school, an accredited physical therapy school, a hospital plan approved by the University or an accredited school of osteopathy. In all cases, all University graduation requirements must be met. It is advisable for a student interested in this program to make the decision to seek a bachelor's degree before entering the professional school so that any questions may be clarified at an early date.

The 3/2 program of the College of Business and Administration is available to qualified transfer students and students majoring in areas other than business. The program permits a student to devote a part or all of the fourth year of study to fulfilling requirements for the Master of Business Administration degree. For details, contact the associate dean for graduate studies in business administration.

General Studies Requirements

The General Studies requirements are the general educational requirements for all the baccalaureate programs of the University. The General Studies curriculum is divided into five major areas; the number of semester hours required in each area is listed below.

Area A Our Physical Environment and Biological Inheritance	9
Area B Our Social Inheritance and Social Responsibilities	9
Area C Our Insights and Appreciations	9
Additional coursework from Areas A, B, or C	3
Area D Organization and Communication of Ideas	11
Area E Human Health and Well Being	4
Total	45

Students must complete a total of 30 semester hours in Areas A, B, and C. Within each Area they must complete a minimum of 9 semester hours, and they must include coursework from at least 3 different disciplines in each Area. The remaining 3 semester hours may include coursework from any one of Areas A, B, or C, or from any combination of these three Areas.

Within Area D, the following are required: 5 semester hours of English composition; 4 semester hours of mathematics; and 2 semester hours of speech or other oral communications as offered in Area D. Some programs and upper division academic units have specific requirements for demonstration of competence in English composition. A student may determine which programs or units have this requirement by referring to program requirements listed in Chapter 4.

In Area E the courses taken must include more than one activity or subject.

Prospective teachers should also check the section of this chapter titled Teacher Education Program.

MEETING GENERAL STUDIES REQUIREMENTS

These requirements may be met by any of the following, subject to the rules and limitations appropriate to each means.

1. Completion of appropriate General Studies courses (listed at the beginning of the next chapter) with a passing grade;
2. Proficiency credit by examination for General Studies courses or approved substitute courses.
3. Proficiency credit via General Examinations of the College Level Examination Program or CEEB Advanced Placement Program (See Program Flexibility in Chapter 2);
4. Transfer credit for courses evaluated as equivalent to General Studies courses or approved substitute courses; and
5. Completion of departmental courses listed as substitutions for General Studies courses. (See List of Approved Substitutions below.)

General Studies courses are offered at the 100, 200, and 300 levels. Few of these courses have specific prerequisites, and a student may decide when to enter a given level. Academic advisers can provide the student with appropriate information about individual General Studies courses.

Beginning students are not restricted to enrolling in only General Studies courses; the student who has selected a major is assisted in determining the proper courses to take by consulting curriculum guides obtained from an academic adviser.

List of Approved Substitutions. The departmental courses which have been approved as substitutions for General Studies courses are listed below. In no case does the departmental course substitute for more credit hours than the credit hours allowed in the comparable General Studies course.

GENERAL STUDIES COURSE APPROVED SUBSTITUTES

GSA 101-3	One of: Physics 203, 205, 253, 255, or 3 semester hours of technical physics. (The substitution of Physics 253 or 255 is limited to one semester hour.)
GSA 106-3 and 107-1	One of: Chemistry 115, 140, 222, 224, 225, or 4 semester hours of technical chemistry
GSA 110-3	Geology 220
GSA 115-3	One of: Biology 306, 308, 309; Botany 200; Zoology 118
GSA 202-3	Physics 203b or 205b
GSA 208-1 and 209-3	Physiology 210, Animal Industries 331, or Military credit for physiology
GSA 240-3	Biology 307
GSA 314-2	Biology 305
GSA 330-3	Military credit for meteorology
GSA unassigned-1 to 12	One to 12 semester hours from University Honors 251a and/or 351a
GSB 103-3	Geography 300
GSB 211-3	One of: Agribusiness Economics 204; Economics 214, 215
GSB unassigned-1 to 12	One to 12 semester hours from University Honors 251b and/or 351b
GSC 100-3	Music 101, or 3 hours of 102, 013, 014, 017, 020, 021, 022
GSC 101-3	Art 100

GSC 204-3	Art 207
GSC 206-3	Music 105a
GSC 293-3	English 209
GSC Foreign Language	Foreign Language
(Note: A student may substitute on an hour-for-hour basis to a maximum of four hours, provided the student has taken GSC courses totaling five hours in two other disciplines. Any additional hours of foreign language may be counted toward the three hours of additional coursework required in areas A/B/C).	
GSC unassigned-1 to 12	One to 12 semester hours from University Honors 251c and/or 351c
GSD 101-3	Linguistics 101
GSD 107-4	One of: Mathematics 110, 111, 114, 116, 117, 139, 140, 150, 151, 159, 250, 259, 282, or 4 semester hours of technical mathematics
GSD 117-2	Linguistics 102
GSD 118-2	One of: Administrative Sciences 202, Linguistics 103, or 2 semester hours of technical writing
GSE 101-114-4	Four semester hours from: Physical Education 115, 116, 117, 118, 119, 120, 170
GSE unassigned-1 to 4	One to 4 semester hours from University Honors 251e and/or 351e
GSE unassigned-1 to 4	ROTC field training
GSE 201-2	Health Education 350

A maximum of 15 semester hours of comparable technical coursework can be substituted for General Studies requirements. Some of these substitutions are listed above; others may be possible on an individual request to the Dean of General Academic Programs.

Flexibility and Other Features. The University believes in a strong, well-rounded general education program but does not accept the idea that every student must take the same course or program in meeting the objectives. Therefore, considerable latitude is permitted the student in meeting the objectives; alternate routes are provided within the General Studies framework.

Accommodations to differences in student background, interest, and aspirations include:

1. Substitutions of approved departmental courses can be made for General Studies courses as previously outlined;
2. Proficiency examinations are offered regularly for some General Studies courses; students should consult with their academic advisers for information concerning these examinations;
3. A University Studies Program (See Chapter 4) allows the students to design a broad undergraduate education.

The Transfer Student and General Studies. A transfer student who expects to graduate from Southern Illinois University at Carbondale with a baccalaureate degree must meet the General Studies requirements as outlined previously. All work done at other institutions will be evaluated and comparable courses will be applied toward the General Studies requirements.

Completion of an associate degree in a baccalaureate-oriented program in an accredited Illinois two-year institution provides that the student will (a) be accepted with junior standing and (b) be considered to have completed the General Studies requirements. Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented, the same benefits will be extended to those graduates. Credit from an accredited two-year institution is limited

only by the provision that students must earn at least 60 semester hours of work at Southern Illinois University at Carbondale or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Additional information concerning admission of a transfer student and the evaluation of transfer credit can be found in the sections of this catalog pertaining to those specific subjects.

Capstone Program

The Capstone Program is a program for the transfer student, with an Associate in Applied Science degree or equivalent certification, whose needs can be met within one of the participating departments. It is a two-year program that gives maximum credit for previous academic and work experiences in the student's occupational field. The purpose of a Capstone Program is to provide an opportunity for students to add to the marketable occupational skills and competencies which they have already acquired.

Key features of the Capstone Program are: (1) It is for selected occupational students who have changed their educational and occupational goals; (2) It is an alternative baccalaureate degree program involving no more than two additional years of college at a four-year institution; (3) It seeks to recognize similar objectives in both two-year occupational programs and four-year baccalaureate degree programs; (4) It seeks to recognize similar objectives in certain work experiences and in four-year baccalaureate degree programs; and (5) It provides a unique opportunity for developing secondary and post-secondary occupational teachers who possess strong work experience and training in a variety of technical specialties and sub-specialties.

The Capstone Program at Southern Illinois University at Carbondale can lead to the Bachelor of Science degree in any of the following areas:

School of Agriculture

- Agribusiness Economics

- Agricultural Education

- Agricultural Education and Mechanization

- Agriculture, General

- Animal Industries

- Plant and Soil Science

College of Education

- Business Education

- Home Economics Education

- Occupational Education

College of Human Resources

- Administration of Justice

- Child and Family

- Clothing and Textiles

- Food and Nutrition

College of Engineering and Technology

- Industrial Technology

School of Technical Careers

- Baccalaureate degree programs — individualized programs

The listing of majors which participate in the Capstone Program may change from time to time.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE THROUGH CAPSTONE

A student completing the degree through the Capstone Program must complete the hour requirements, residence requirements, and average requirements as are required for all bachelor's degrees. These requirements are explained near the

beginning of this chapter. The course requirements for the Capstone Program are explained below.

The following General Studies requirements must be satisfied:

Science	6 semester hours
Social Science.....	6 semester hours
Humanities.....	6 semester hours
Health and Physical Education	3 semester hours
English Composition	one course
Mathematics	one course
Speech	one course
Minimum Total	30 semester hours

In addition to the General Studies requirements, the student must complete the requirements specified in a contract to be developed between the student and the academic unit or department representative. The contract will list the remaining requirements for the baccalaureate degree.

PROCEDURES FOR APPLYING TO THE CAPSTONE PROGRAM

To be considered for the Capstone Program, the following conditions must be met:

1. Admission to the University and to the department offering the capstone option must be completed. An application to the Capstone Program cannot be processed prior to official admission into the University.
2. The applicant must complete an associate degree program or its equivalent certification.
3. The applicant must have a minimum grade point average of 2.25 (4.0 grading scale) as computed by Southern Illinois University at Carbondale and according to regular University grading policies and procedures.
4. The applicant must file the application to the Capstone Program no earlier than one term prior to the intended entry into the program and no later than the completion of the first term of attendance at Southern Illinois University at Carbondale. Southern Illinois University at Carbondale students need to submit the application during the term preceding or just following completion of associate degree requirements.

If advance approval is granted to pursue a Bachelor of Science degree through the Capstone Program and the minimum requirements of points 2 and 3 are not met, the approval for admission to the program will be withdrawn.

Academic Units and Programs Offered

School of Agriculture

GILBERT H. KROENING, *Dean*

Departments: Agribusiness Economics; Agricultural Education and Mechanization; Animal Industries; Forestry; Plant and Soil Science

The School of Agriculture offers the following majors leading to the Bachelor of Science degree.

Agribusiness Economics	Agricultural Education and
Agricultural Education	Mechanization
Agriculture, General	Forestry
Animal Industries	Plant and Soil Science

It is recommended that high school students who are planning to pursue one of the above majors include the following in their high school program: four units of

English, two to four units of mathematics (algebra, geometry, advanced mathematics); two to three units of science (biology, chemistry, physics) and two to three units of social studies. Remaining units might well include agriculture.

For transfer students wishing to pursue a major in one of the agricultural or forestry areas, courses taken prior to entering Southern Illinois University at Carbondale should include a distribution in the physical and biological sciences, social sciences, and humanities. In addition, a course in speech and appropriate sequences in English composition and college algebra should be included. A potential transfer student who has already identified a major for the bachelor's degree may select with greater precision the courses which will be transferred by consulting the curriculum for that major in Chapter 4.

A student planning to take preprofessional courses in veterinary science should register in the School of Agriculture's four-year curriculum in animal industries.

Qualified candidates for the Capstone Program are accepted with majors in agribusiness economics, agricultural education, agricultural education and mechanization, animal industries, general agriculture, and plant and soil science. The Capstone Program is described earlier in this chapter.

Of the recent graduates of the School of Agriculture, about 35% have been employed in private industry, about 20% have entered farming or farm management and about 15% have been employed in each of: government (federal, state, county, and city); education or extension; graduate study or professional schooling.

In addition to preparing students for employment in the traditional agricultural and agriculturally related occupations, the School of Agriculture is increasing its emphasis on the currently important areas of environmental studies and ecology.

School of Agriculture students come from both rural and urban homes. Approximately 30% of agriculture and forestry students are women. Students who elect any one of the seven majors in the School of Agriculture are counseled and advised for registration in the school. Graduates receive the Bachelor of Science degree.

The Agriculture Building houses the offices, classrooms, and laboratories of the school. Other research and teaching facilities include over one-third acre of greenhouses plus 2,000 acres of farm and timber land.

College of Business and Administration

R. CLIFTON ANDERSEN, *Acting Dean*

Departments: Accountancy; Administrative Sciences; Finance; Marketing

The College of Business and Administration aims to prepare students to perform successfully in business and other organizations functioning within a changing social, economic, and political environment. Study provides the student with fundamental principles and practices of organizational behavior and allows the mastering of knowledge and skills for effective management. The curriculum provides a broad base for understanding business while simultaneously allowing in-depth study within an area of concentration. Students find that the professional education they receive in the college is desired by business, governmental units, and other public institutions. The advanced curriculum and related programs provide students not only with a meaningful education but with a means of relating that education to organizations and commerce.

The College of Business and Administration offers the following majors leading to the Bachelor of Science degree.

Accounting

Administrative Sciences

Business and Administration

Business Economics

Finance

Marketing

Any student, whose personal and professional goals cannot be met by any of the majors listed above, may design a special major in accordance with the University guidelines which are fully described in Chapter 4 of this catalog.

While minors are not offered, academic advisers of the college will assist and counsel those students enrolled in other units of the University having an interest in electing business courses.

All programs offered in the College of Business and Administration are accredited by the American Assembly of Collegiate Schools of Business.

The College of Business and Administration offices are located in Henry J. Rehn Hall, and the classes are conducted in various buildings throughout the campus.

Pre-College Preparation. High school and preparatory school students are urged to follow a program which includes at least three units of both English and mathematics, with a substantial portion of the remainder of their study programs devoted to such academic subject areas as humanities, the sciences, and social studies.

Transferred Credits in Business Courses. Subject to the University's policies regarding acceptance of transferred credits, the college accepts college-level credit earned in business and economics courses from accredited two- or four-year institutions of higher education and counts such credit toward the 120 semester hours required for graduation. However, if such courses are offered at the lower division (freshman and sophomore) level at the institution where completed, only those courses shown below will be treated as equivalencies to college- or departmental-required courses.

<i>Subject</i>	<i>Hours</i>
Principles of accounting	6
Cost accounting	3
Economic principles	6
Business economics statistics	3
(where college algebra is a prerequisite)	
Basic computer courses ¹	3

¹Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course is designed to teach one and only one of the following languages: FORTRAN, BASIC, COBOL, RPG, PL1, or ALGOL. Courses that survey numerous languages are not acceptable. Further, coursework with emphasis on unit record or data processing equipment will not be considered equivalent to the college's computing requirement. Acceptable coursework should have a one-language base and present the student with advanced programming concepts, e.g., loops, arrays, etc.

Additionally, three semester hours of introduction to business and three semester hours of business law (contracts and agency) completed at the lower division level are acceptable in satisfaction of department requirements, in those programs where these courses are required.

Students also have the opportunity of validating additional coursework and nothing in the above statement abridges a student's right to satisfy graduation requirements by proficiency (or competency) examinations. Such examinations are treated as a student right by the college and are available for most courses.

Admission Policy. The admission policy to the College of Business and Administration shall be the same as that of the University.

Retention Policy. In order to remain in the College of Business and Administration, university retention standards must be met, and before the junior year (56 hours of credit), a student must have completed with a minimum grade of C at least five of the following seven courses or equivalencies: GSD 101; GSB 202; Mathe-

matics 116 and 117 or 139 and 140; Economics 214, Accounting 220; and Administrative Sciences 208. Transfer students with more than 56 hours upon entering the College of Business and Administration who have not completed at least five of the seven courses with the minimum C grade must do so within one semester in order to remain in the College of Business and Administration. Students who have completed 42 or more hours without completing at least five of the prescribed seven courses will be given a warning of possible termination from the College of Business and Administration.

Grade Point Average Requirement. Graduation from the College of Business and Administration requires achievement of a 2.00 grade point average in all business-prefix (ACCT, ADSC, ECON, FIN, MKTG) courses offered at Southern Illinois University at Carbondale. Accounting majors are subject to the additional requirement of achieving a grade of C or better in accounting-prefix (ACCT) courses completed at Southern Illinois University at Carbondale.

Pass/Fail Policy of the College. Business majors may not register on a Pass/Fail basis for courses used to satisfy requirements of the professional business core.

Course Sequencing. It is of the utmost importance that required courses be sequenced properly. Sequencing guides are available from the college's academic advisement center and are published in the College of Business and Administration's *Student Information Manual*. Courses on the 300 to 400 levels are reserved for juniors and seniors.

Forty Percent Rule. At least 40% of the coursework of all business majors must be devoted to courses offered outside the College of Business and Administration; at least 40%, to courses offered by the College of Business and Administration.

Multiple Majors in Business. Business majors may choose to complete two or more of the six majors offered by the college. While all requirements of each major must be satisfied, this can usually be accomplished through judicious use of electives without extending anticipated graduation dates beyond one semester. All majors will be noted on the diploma issued on completion of the Bachelor of Science degree.

Special Majors. Students with special interests or needs which cannot be met by any of the majors offered by the college may participate in designing their own programs under the special major program. Examples of such programs include those designed to prepare graduates for careers such as managers of airports, hospital administrators, and business consultants. To support a growing trend among students to utilize the special major to prepare themselves for careers in small business management, the college has added to its offerings such courses as Administrative Sciences 350, Finance 350, and Marketing 350. Special major programs must be coherent and unified and have as a sponsor a member of the teaching faculty of the college. All Southern Illinois University at Carbondale and college requirements must be met.

General Studies Courses Prescribed for Business Majors

Area A: None

Area B: GSB 202 and Economics 214 (an approved General Studies substitute)

Area C: None

Area D: GSD 101; 117, 118, or 119 (or equivalent); Mathematics 139 or 116 (approved General Studies substitutes) and GSD 152 or 153. (Administrative Sciences 202, an approved substitute in Area D, may be substituted for GSD 118.)

Area E: None

These hours count toward partial fulfillment of General Studies Requirements of 45 semester hours.

Professional Business Core. The professional business core, required of all College of Business and Administration students, is comprised of the following courses:

<i>Courses</i>	<i>Semester Hours</i>
Accounting 220, 230	6
Administrative Sciences 208, 304, 318, 481	13
Computer Science 212 or Electronic Data Processing 217	3
Economics 215	3
Finance 320, 370 ¹	6
Marketing 304, 305	6
Mathematics 140 or 117 ²	4-5
Business-prefix (ACCT, ADSC, ECON, FIN, OR MKTG) courses outside the major	6
<i>Total</i>	47-48

¹The combination of Finance 271 and 372 may be substituted for 370.

²Mathematics 150 may be substituted for 140 or 117.

College of Communications and Fine Arts

C. B. HUNT, JR., *Dean*

Departments: Cinema and Photography; Communication Disorders and Sciences; Radio-Television; Speech Communication; Theater
Schools: Art; Journalism; Music

The College of Communications and Fine Arts offers the Bachelor of Arts degree in the following majors or specializations within majors:

Art (some specializations)	Radio-Television
Cinema and Photography	Speech Communication
Music (some specializations)	(some specializations)
	Theater

The Bachelor of Science degree is awarded in other majors or specializations within majors:

Art (some specializations)	Speech Communication
Communication Disorders and Sciences	(some specializations)
Journalism	

The Bachelor of Music degree is awarded for some specializations in the School of Music.

Additional information about the majors offered in the College of Communications and Fine Arts is offered elsewhere in this bulletin. Students who are considering enrollment in a major should read the section on curriculum. Admission to the university is handled through the Office of Admissions and Records, but those students who desire more specific information about a major should make an appointment with an academic adviser of that department or school. Each department or school of the college has one or more individuals who will advise prospective students about major requirements, curriculum, activities, careers, and opportunities. Transfer students may also discuss transfer credit and placement in courses at Southern Illinois University at Carbondale.

A student with special personal and professional goals which cannot be met by

one of the traditional majors is encouraged to consider the resources available within the college and university and design a special major. Requirements and guidelines are listed elsewhere under *Special Major*.

Faculty of the college are engaged in research/creative activities concerning communications and the arts. They also provide consulting service and other community services to schools, newspapers, radio and television stations, museums, arts centers, businesses, and governments. They hold professional memberships and serve as officers in various local, state, national, and international organizations in the communications media and in the arts. A number of special events are presented each year, including lectures by noted artists, music performances, dramatic presentations, art and photography exhibits, and film showings.

The Broadcasting Service is also a part of the college. It operates WSIU(FM), a public radio station and WSIU(TV), Channel 8, a public television station, both located in Carbondale. It also operates a second public television station, WUSI(TV), Channel 16, at Olney.

Administrative offices of the college are located in the Communications Building, which includes the McLeod Theater along with broadcasting facilities, film production facilities, and the office of the *Daily Egyptian*.

College of Education

DONALD L. BEGGS, *Dean*

Departments: Curriculum, Instruction, and Media; Educational Leadership; Guidance and Educational Psychology; Health Education; Higher Education; Physical Education; Recreation; Special Education; Vocational Education Studies

The College of Education offers the following programs¹ leading to the Bachelor of Science degree:

Agricultural Education

Art

Biological Sciences

Botany

Business Education

Chemistry

Classics (To teach Latin)

Early Childhood Education

Elementary Education

English

French

Geography

German

Health Education

History

Home Economics Education

Language Arts (English and Reading)

Mathematics

Music

Occupational Education

Physical Education

Physics

Political Science

Recreation

Russian

Secondary Education²

Social Studies

Spanish

Special Education

Speech Communication

Speech Pathology and Audiology
(now Communication Disorders
and Sciences)

Zoology

¹In addition to programs offered almost entirely within the College of Education, certain programs are offered in cooperation with the College of Liberal Arts (e.g., mathematics) or with the College of Communications and Fine Arts (e.g., art, music), School of Agriculture (agricultural education), and the College of Science (e.g., biological sciences, chemistry).

²This is not an academic major. Persons planning to teach in secondary schools should refer to the curriculum, instruction, and media section of this catalog for a listing of academic majors and minors.

Preparation of teachers at all levels and in all areas of instruction in the public schools from preschool education through high school is the special function of the College of Education. In its graduate offerings the efforts of the College of Educa-

tion include professional work for prospective college teachers and administrators and several specializations in elementary and secondary school administration and supervision.

For most undergraduate students preparing to teach in high schools, the subject-matter courses will be taken in the other colleges and schools of the University, and the professional preparation for teaching, including student teaching, will be taken in the College of Education. Graduates of the College of Education receive the Bachelor of Science degree.

Students who wish to become principals or supervisors in the public schools take graduate work in the Department of Educational Leadership. The department's major emphasis is on graduate work, but it also participates in providing background for elementary and high school teachers. Likewise, students wishing to pursue a career in teaching or administration in colleges and universities take graduate work in the Department of Higher Education. The department does not offer an undergraduate major in higher education, but it provides courses for undergraduate credit providing a broad background in higher education for elementary and high school teachers.

The College of Education, housed in the Wham Education Building, is the oldest unit of the University, which was originally chartered as Southern Illinois Normal University.

Teacher Education Program

Southern Illinois University at Carbondale is fully accredited by the National Council for Accreditation in Teacher Education (NCATE) and by the State Teacher Certification Board, Springfield. The teacher education program is an all-university function administered by the dean of the College of Education. An advisory committee composed of faculty and students serves in a recommending capacity to the dean.

Teacher education programs, approved by the State Teacher Certification Board, are offered in elementary education, early childhood education, early childhood-preschool education, special education, secondary education majors and minors, and in majors which lead to the special certificate to teach K-12. The special education major offers specializations in education of the behaviorally disordered, education of the mentally retarded, and education of the learning disabled.

Only those students who complete an approved teacher education program are recommended for certification and may receive a teaching certificate through the entitlement process. Further information and procedures for receiving the certificate are explained below under Certification.

ADMISSION TO THE TEACHER EDUCATION PROGRAM

Admission to the College of Education does not guarantee admission to the teacher education program. Admission is granted only after specific criteria have been met. A student is eligible to make formal application to the program with a minimum of 30 semester hours of completed work including Education 201, an approved teaching major, and an overall grade point average of at least 2.15 (4.0 scale). Applications must be submitted in person and must be accompanied by verification that all prerequisites have been met. Applications received through the mail will not be considered. Application forms, as well as information about the teacher education program, are available from the coordinator of teacher education services in the Office of Teacher Education in the Wham Education Building, room 135. Students are encouraged to investigate the feasibility of applying for a particular teaching field early in their undergraduate careers by contacting their adviser or the department in which they wish to specialize.

If a student's application is approved after being reviewed by the coordinator of teacher education services, the student is issued a membership card which entitles the student to begin work in the basic professional education courses which are

prerequisite to the professional semester of student teaching. At the end of the first semester of membership, the department offering the student's major is requested to submit a recommendation as to whether or not the student should be retained in the program. Failure to obtain approval prohibits the student from continuing with the professional education courses and could lead to suspension from the program. In order to remain in the program and complete the requirements for graduation and teacher certification, they must attain an overall grade point average of at least 2.25 (4.0 scale) and receive departmental approval. Both of these requirements must be met before final clearance can be given for a student teaching assignment.

Students who are not able to meet the criteria of the teacher education program or their major department will be counseled about alternative programs.

DEGREE REQUIREMENTS

In addition to general studies and major requirements, each degree candidate in a teacher education program must complete the course requirements listed below:

1. Four semester hours in health and physical education by taking GSE 201 and two hours of GSE 100-114. These courses should be selected as a part of the general studies requirements.
2. A course in American history or government (GSB 212 or 300 or 301 are recommended.)
3. The United States and State of Illinois constitution examinations requirement. This requirement for continuing certification in Illinois may be met by taking GSB 212, 300 or 301; by taking a course in American history or political science other than GSB 212, 300 or 301 and passing the constitution test administered by the University; or by presenting written notification from another institution that a course in American history or government has been passed and that the tests have been passed on the constitutions of the United States and the State of Illinois.
4. GSB 202 as a prerequisite for Education 301 in the professional education sequence. GSB 202 should be selected as a part of the general studies requirements.
5. GSD 101 and GSD 117, 118, or 119, and one additional English course (GSC or English department) with a grade of C or better in each of the last two courses completed. This requirement is a prerequisite to admission to the professional semester.
6. The professional education sequence listed below. Each of the courses which are part of the program prior to the professional semester must be completed with a grade of C or better as a prerequisite to admission to the professional semester. Students must receive a grade of C or better in Education 400 and 401 to receive the institutional recommendation for certification. Education 201 must be completed prior to admission to the teacher education program.

Professional Education Sequence 25

Decision Component

Education 201 1

Basic Professional Block

Education 301 2

Education 302 2

Education 303 2

Education 304a, b, c, d, e, f, g, h 2

Education 312¹ 1

Professional Semester²

Education 350 3

Education 400 4

Education 401 8

7. Illinois State Teacher Certification Board general education course distribu-

tions in: language arts, science, mathematics, social science, humanities, health, and physical education. Students having questions concerning whether their programs meet certification board requirements should discuss their concerns with their academic advisers.

¹Concurrent registration in Education 350, 400, and 401 is required during the professional semester.

²The following courses are approved substitutes for Education 312 as a part of the professional education requirements for the majors indicated: Music 304 and 306 for music majors; Speech Communication 230 and 390 for speech majors; and Communication Disorders and Sciences 105 and 493 for communication disorders and sciences majors.

Certification

A student who is nearing completion of the teacher education program (usually during the last semester) can obtain the forms to make application for entitlement to certification for the State of Illinois from the Office of Teacher Education, Wham Education Building, Room 135. Upon completion of the application forms by the student, the certification staff will process the forms. When the student's program, including graduation clearance, is completed, the office will mail the completed forms to the student's permanent address for use in applying for certification through the student's future educational service region superintendent.

The State of Illinois issues through the entitlement process the Standard Elementary Certificate, Standard High School Certificate, Standard Special Certificate, or Early Childhood-Preschool Certificate to students who graduate from an approved teacher education program at Southern Illinois University at Carbondale.

Standard Elementary Certificate. Students planning to teach on the elementary level in the public schools of Illinois register in the College of Education. Requirements for entitlement to the State of Illinois standard elementary certificate may be through the completion of the early childhood (K-3) education program or the elementary education (K-9) program. For further information concerning these programs, see the sections of this catalog titled curriculum, instruction, and media and professional education experiences in Chapter 4.

Standard High School Certificate. Requirements for entitlement to the State of Illinois standard high school certificate and for entitlement to the standard special certificate may be met as explained in the section of this catalog titled curriculum, instruction, and media in Chapter 4. A listing of majors, minors, and other programs approved for certification entitlement purposes at Southern Illinois University at Carbondale is presented there. It is possible for a student to be registered in one of the colleges or schools other than the College of Education and to meet the state requirements for the standard high school certificate or the standard special certificate by using as electives certain prescribed professional education requirements in the College of Education.

Standard Special Certificate. Teaching all grades, kindergarten through grade 12, requires the standard special certificate. As noted above, requirements for entitlement to the standard special certificate may be met in the manner outlined in the section of this catalog titled curriculum, instruction, and media in Chapter 4. Teaching fields for which the standard special certificate is issued include physical education, special education, music, art, and speech pathology and audiology (now communication disorders and sciences).

Early Childhood-Preschool Certificate. Students planning to teach at the preschool level in public schools or other settings in Illinois register in the College of Education or in the College of Human Resources. The early childhood-preschool program was specifically designed to prepare future teachers of prekindergarten

children. For further information concerning the program, see the section of the catalog titled curriculum, instruction, and media in Chapter 4.

College of Engineering and Technology

KENNETH E. TEMPELMEYER, *Dean*

Departments: Electrical Sciences and Systems Engineering; Engineering Mechanics and Materials; Mining Engineering; Technology; Thermal and Environmental Engineering

The College of Engineering and Technology offers the following majors leading to the Bachelor of Science degree:

Engineering

Industrial Technology

Engineering Technology

Specific requirements are listed for the various majors offered by the colleges in the next chapter.

Admission Policy

The College of Engineering and Technology admission policy shall be the same as that of the University. All qualified new students are admitted, however, to the College of Engineering and Technology with a pre-engineering, pre-engineering technology, or pre-industrial technology major classification rather than a specific departmental major. The same policy applies for reentering students who have not met the academic unit's retention requirements.

Retention Policy

A student in the College of Engineering and Technology must successfully complete the following requirements to (1) advance to the upper division courses (300 or 400 level courses) and (2) remain in the college:

Engineering

1. To advance to upper division courses and be classified under a specific departmental major, a pre-engineering or transfer student must have completed the following five courses or their accepted equivalencies with a minimum grade of *C* in at least four of the five courses: Mathematics 150, 250, and 251; Chemistry 222a or 224; Physics 205a.
2. To remain in the college, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in engineering used to determining the major grade point averages are courses offered as engineering, engineering mechanics and materials, electrical sciences and systems engineering, mining engineering, and thermal and environmental engineering.

Engineering Technology

1. To advance to upper division courses and be classified under a specific departmental major, a pre-engineering technology or transfer student must have completed the following four courses or their accepted equivalencies with a minimum grade of *C* in at least three of the four courses: Mathematics 111 and 150; Engineering 222; and Chemistry 140a or Physics 203a.
2. To remain in the college, students are subject to the additional requirement of maintaining a 2.0 accumulative grade point average in all of their major courses. Major courses in engineering technology used in determining the major grade point averages are courses offered as engineering technology.

Industrial Technology

1. To advance to upper division courses and be classified under a specific departmental major, a pre-industrial technology or transfer student must have completed the following four courses or their accepted equivalencies with a minimum grade of C in at least three of the four courses: Mathematics 111; Physics 203a; Engineering Technology 103; and Engineering 222.
2. To remain in the college, students are subject to the additional requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in industrial technology used in determining the major grade point averages are courses offered as industrial technology.

Grades earned at an institution whose credit is accepted by Southern Illinois University at Carbondale will be calculated for entrance to and retention in the engineering or technology programs but will not be used in a student's university average or the college major average at Southern Illinois University at Carbondale. Engineering and technology representatives will determine whether courses completed at other institutions are equivalent to those courses required for retention.

Collegiate Warning and Dismissal. Students who do not achieve an accumulative 2.00 grade point average in their major in any semester are subject to collegiate warning. Students who are on collegiate warning and do not earn a 2.00 grade point average in courses required by their major in a subsequent semester will be placed in a status of collegiate dismissal. A student who has been placed on collegiate dismissal may seek transfer to another university program if the student has an overall Southern Illinois at Carbondale grade point average of 2.00 and is in good academic standing. Students who are placed on collegiate dismissal and have less than an overall 2.00 for work completed at Southern Illinois University at Carbondale but have not been suspended from the University will be placed in General Academic Programs.

Readmission to the College

Students dismissed from the College of Engineering and Technology for failing to maintain a grade point average of 2.00 in the major courses may seek readmission to the college after a minimum two semesters interruption but must furnish tangible evidence that satisfactory progress in the program can be made in the future. Satisfactory performance in a special problems course, 492, will not be solely considered as sufficient evidence to justify readmission.

Course Sequence

It is important that required courses in the program be taken in the proper sequence. Sequence guidelines are available from the college advisement office and the departmental offices. Courses on the 300 and 400 levels are reserved for juniors and seniors. Students who have not completed the courses specified in the above retention policy will not be allowed to take 300 or 400 level courses in their program area without approval of the department chairperson, unless they have received provisional admission status as described in the section *Transferred Credits*.

Transferred Credits

All transfer credit from an institution whose work is acceptable at Southern Illinois University at Carbondale, both two-year and four-year, will be used in fulfillment of the program retention standards given above. Equivalencies for the retention standard courses will be determined by the advisement center, office of the dean, College of Engineering and Technology.

Students who are attending a public Illinois community college system and

contemplating application to the College of Engineering and Technology should obtain pre-engineering or pre-technology program information which has been prepared for their particular community college.

Transfer students who have not completed all of the specified courses listed in the section *Retention Policy* will be admitted to the college provisionally if all of these specified courses can be completed in the first semester at Southern Illinois University at Carbondale. If a longer period is required, the student will be admitted with a pre-engineering, pre-engineering technology, or pre-industrial technology status.

Qualified candidates for the Capstone Program are accepted with majors in industrial technology. The Capstone Program is described earlier in this chapter.

Location

Administrative offices of the college are located in the Technology Building near Lake-on-the-Campus.

General Academic Programs

JEWELL A. FRIEND, *Dean*

General Academic Programs includes the following:

General Studies	University Studies
Center for Basic Skills	University Honors Program
Special Majors	Pre-Major Advisement Center
Special Supportive Services	Upward Bound

Generally concerned with the freshman and sophomore years, General Academic Programs offers academic support programs designed to enhance opportunities for success for all its students. The University Studies program offers B.S. or B.A. degrees. Students interested in General Academic Programs should contact the dean of General Academic Programs.

Center for Basic Skills

The Center for Basic Skills offers special academic assistance through laboratory instruction, small group sessions, and individual tutorials in writing, mathematics, reading, and speech communication for students required to take special courses in these disciplinary areas at the introductory levels. Although participation for some students may be required, any student is welcome to take advantage of this special service at no cost. Students should direct inquiries to the director of the Center for Basic Skills.

General Studies

The General Studies Division coordinates the courses which comprise the General Studies Program and the general education requirements for all undergraduates in the University. The General Studies Program is intended to provide graduates of Southern Illinois University at Carbondale with the broad foundation of knowledge necessary for both personal development and for informed action as a responsible member of society. The number and variety of courses allow for adaptation to individual needs.

The General Studies Advisory Council, composed of faculty and student representatives, advises the dean of General Academic Programs on matters of policy and curriculum which determine the direction and development of the program.

Pre-Major Advisement Center

The Pre-Major Advisement Center is the academic home of students who have not declared a major. The advisers have a wide acquaintance with the many programs

offered by the University and are ready to help students to select a suitable area of specialization.

University Honors Program

The University Honors Program is a University-wide undergraduate program designed to offer unique educational experiences to participating students. The program also includes making available small sections of large classes, special seminars, independent studies, and other methods of enriching the education of its members, who are designated University Scholars.

At the time of graduation, an indication of participation in the program is made on the diploma and transcript for students who complete all requirements.

The director of Honors Opportunities is aided by the Honors Council and by the Council of University Scholars in administering the program.

The University Honors Program also oversees, publicizes, and coordinates all-campus award competitions, and some internships and travel/study plans. The director of Honors Opportunities seeks out special educational opportunities for students as a further way of offering more challenging and more interesting educational opportunities. Students with special educational needs are encouraged to discuss their plans with the director of Honors Opportunities.

Admission and retention information for University Scholars is found in chapter 2.

University Scholars may complete the General Studies requirements of the University by enrolling in advanced courses in departments which offer General Studies Classes. With the close cooperation of the Honors Sponsor, individual options may be exercised which fulfill the spirit of General Studies requirements, but, to challenge the University Scholar, may depart from standard University requirements.

Baccalaureate degrees for University Honors Program participants are awarded through the regular degree granting units.

Inquiries about the program should be addressed to the director of honors opportunities.

Special Major

A student whose academic needs are not met by existing baccalaureate programs may arrange a special baccalaureate degree program in lieu of a standard curriculum. In consultation with a faculty sponsor, the student draws up a program for which the baccalaureate degree will be awarded, with final approval from the dean of General Academic Programs. The special area program should have structure, organization, and a rationale consistent with the student's post-baccalaureate plans. The special major must include all-University and unit graduation requirements.

Examples of special majors which have been developed: Environmental Systems Design; Broadcast Management and Sales; Community Health; Juvenile Services and Corrections; Physiological Microbiology; Studies in Humanism; Creative Arts; General Environmental Studies; Asian Studies; Biological Marketing; Museum Studies. Interested students should confer with the dean of General Academic Programs.

Special Supportive Services

The Special Supportive Services program is an academic support system designed for students with academic potential who are from indigent or culturally different backgrounds. Modified admissions criteria emphasize motivation and require a personal interview. The specialized services offered through this program include but are not limited to (1) personal and career counseling and guidance, (2) a comprehensive tutorial program, and (3) special services consistent with the goals of recruiting, retaining, and graduating target populations.

Eligible participants must be citizens of the United States and conform economically to federal low-income standards unless they are physically handicapped or speak limited English.

University Studies Program

In the University Studies Program students pursue either a Bachelor of Arts or Bachelor of Science degree through an individually designed, broad based curriculum rather than a traditional specialization. The program accommodates multidisciplinary and non-traditional approaches to education and to related career and life-styling.

To determine eligibility for the University Studies Program as well as to explore specific program possibilities, students should consult the dean, General Academic Programs, or the program coordinator.

Upward Bound

This is a support program which identifies and recruits seventh to twelfth grade students in specific areas of southern Illinois who have the potential for serious academic work but who are insufficiently motivated. The program provides developmental, personal, and academic opportunities for underprivileged students who might not otherwise see themselves as future college students. Persons interested should direct inquiries to the director, Upward Bound.

Graduate School

JOHN S. JACKSON III, *Acting Dean of the Graduate School*

Southern Illinois University at Carbondale is a comprehensive university with an extensive offering of graduate programs and a significant commitment to an overall program of research. More than 3,400 graduate students pursue advanced study and research under the leadership and direction of some 900 graduate faculty members. The Graduate School offers master's degrees through sixty-seven programs, the specialist degree (sixth year) in four areas of education, and the doctoral degree through twenty-two programs. The Ph.D. program in education has concentrations in thirteen different areas.

The following graduate degrees are offered: Master of Accountancy, Master of Arts, Master of Business Administration, Master of Fine Arts, Master of Music, Master of Music Education, Master of Public Affairs, Master of Science, Master of Science in Education, the Specialist degree offered in the field of education, the Doctor of Philosophy, the Doctor of Business Administration, and the Doctor of Rehabilitation.

The Graduate School is fully accredited by the North Central Association of Colleges and Secondary Schools, and specific programs have been accredited by appropriate state and national accrediting associations.

A separate catalog describing admission and graduation requirements for the various programs in the Graduate School may be had by writing to the Graduate School, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. An application for admission to graduate study may also be requested from the Graduate School.

College of Human Resources

SAMUEL GOLDMAN, *Dean*

Divisions: Comprehensive Planning and Design with academic programs in clothing and textiles, interior design, and design; Human Development with academic

programs in child and family, family economics and management (now consumer economics and family management), and food and nutrition; Social and Community Services with academic programs in black American studies, community development, and social work; Center for the Study of Crime, Delinquency, and Corrections; Rehabilitation Institute.

The College of Human Resources offers the following majors leading to the Bachelor of Science degree:

Administration of Justice	Food and Nutrition
Child and Family	Interior Design
Clothing and Textiles	Social Work
Family Economics and Management	

It also offers a major leading to the Bachelor of Arts degree in design.

The specific requirements for each of these majors are listed in the next chapter.

Qualified candidates for the Capstone Program are accepted with majors in administration of justice, child and family, clothing and textiles, family economics and management, and food and nutrition. The Capstone Program is described earlier in this chapter.

Minors are offered in administration of justice, black American studies, child and family, clothing and textiles, community development, and consumer studies.

School of Law

DAN HOPSON, *Dean*

The school offers a three-year program leading to the Juris Doctor (J.D.) degree. Candidates must satisfy the entrance requirements, fulfill the residence requirements, satisfactorily complete a total of 90 semester hours for credit and take all required courses. Students may, with permission from the School of Law and the relevant graduate program director, obtain joint JD/MBA, JD/MPA and JD/Master of Accountancy degrees. Approximately 140 entering freshmen will be admitted in the fall of 1982; 150 students thereafter.

The law school has received accreditation from the American Bar Association and is a member of the Association of American Law Schools. During the summer of 1981 the school occupied new and contemporary facilities housing classrooms, student lounges, administrative offices and the library, as well as a courtroom and large, in-house clinic offices.

The faculty and student body of the school are of the highest quality, and its curriculum is designed to inculcate fundamental legal concepts and skills which are the hallmarks of the profession of law. In addition to the Socratic — casebook method, other teaching methods, including clinical, are utilized as the subject matter requires. The School of Law catalog can be obtained by writing the School of Law.

College of Liberal Arts

JAMES F. LIGHT, *Dean*

Departments: Anthropology; Computer Science; Economics; English; Foreign Languages and Literatures; Geography; History; Linguistics; Mathematics; Philosophy; Political Science; Psychology; Religious Studies; Sociology

The College of Liberal Arts offers the following majors leading to the Bachelor of Arts and Bachelor of Science degrees. Minors are possible in most of these areas. For exceptions, see next chapter.

African Studies ¹	Classics	Linguistics
Anthropology	East Asian Civilizations ¹	Mathematics
Asian Studies ¹	French	Paralegal Studies for Legal Administrators
Comparative Literature ¹	German	Philosophy
Computer Science	Greek ¹	Political Science
Earth Science ¹	Japanese ¹	Psychology
Economics	Latin ¹	Religious Studies
English	Russian	Sociology
Foreign Languages and Literatures	Spanish	Speech Communication ²
Chinese ¹	Geography	Uncommon Languages ¹
Classical Civilization ¹	History	
	Latin American Studies	

¹Minor only.

²Liberal arts major, not professional major.

The College of Liberal Arts provides instruction in basic subject matter courses of General Studies; majors in nineteen subject areas, graduate programs for students pursuing master's and Ph.D. degrees, preprofessional curricula for specialized schools such as law and theology, and courses offered through the Division of Continuing Education. The Bachelor of Arts or Bachelor of Science degree is granted to students who fulfill requirements for graduation from the College of Liberal Arts. The courses of study outlined by the departments determine the degree awarded. Students in the College of Liberal Arts may also prepare directly for teaching at the secondary level by including in their studies certain professional courses offered by the College of Education.

Through the diversified offerings of the College of Liberal Arts, students develop the ability to seek and weigh evidence and to think critically and independently; they gain a fundamental understanding of the ever changing social, political, and physical environment, and a deeper understanding of people, cultures, art, and literature.

ACADEMIC REQUIREMENTS

To receive a degree from the College of Liberal Arts students will be expected to fulfill the following requirements:

1. University requirements including those relating to General Studies, residency, total hours completed, and grade point average.

2. College of Liberal Arts requirements of one year of a foreign language; one course in mathematics or computer science in addition to four hours of General Studies mathematics; one course in English composition in addition to five hours of General Studies composition.

3. Completion of an approved major in the College of Liberal Arts.

4. At least 40 hours of course work at the 300 or 400 level. Liberal arts major requirements provide for a large number of elective courses, giving students maximum flexibility in planning their overall program of study at the University. To assist students in planning their programs, the college maintains an academic advisement office in Faner Hall 1229, as well as faculty advisers in each department. Students are urged to consult their academic advisers on how they can best use their electives to fulfill their intellectual interests and to prepare for particular career opportunities. A carefully planned minor or second major field can lead to additional career opportunities for the liberal arts major. Students who are planning to attend graduate school or one of the professional schools such as law or medicine should consult with their advisers on how best to plan their undergraduate curriculum.

PRE-LAW

The College of Liberal Arts has a pre-law advisory committee to help students plan

a useful, interesting curriculum to improve the skills important for the study of law. This committee is made up of faculty members of various University units who hold law degrees or who have particular expertise in fields important to law and pre-law preparation. The committee sponsors a Pre-Law Night each fall, where opportunities are presented for open discussion of undergraduate curriculum and the law school admission process. These discussions are led by students and faculty of the Southern Illinois University at Carbondale School of Law. A mock Law School Admission Test is given twice a year under regular test conditions.

The pre-law student may choose any major course of study. Among courses especially recommended for pre-law students is Liberal Arts (LAC) 105, Law in American Society, a special interdisciplinary course offered each fall semester. Students who are interested in pre-law may discuss academic programs and plans with pre-law advisers in the Liberal Arts Advisement Office.

School of Medicine

RICHARD H. MOY, *Dean and Provost*

Southern Illinois University School of Medicine was established in 1970 in response to a need in Illinois for increased opportunities for education in health fields and the more encompassing need for improvements in the health care delivery system. To have the broadest impact possible on health care in central and southern Illinois, the school is deeply engaged in training men and women who will become physicians. It also emphasizes continuing education and is a center of health care planning and expertise.

The first class of forty-eight students was admitted for instruction in June, 1973. Currently, 72 students are admitted each year. Preference is given to applicants from central and southern Illinois intending to practice medicine in the state. Inquiries on admission should be addressed to the Committee on Admissions, Southern Illinois University School of Medicine, P.O. Box 3926, Springfield, Illinois 62708.

The four-year curriculum leads to the M.D. degree. Students matriculate in August. The first twelve months are conducted on the campus of Southern Illinois University at Carbondale and emphasize instruction in the sciences basic to medicine. Significant clinical instruction occurs during the first year and increases considerably in the second year, at Springfield. The last two years in Springfield are almost exclusively clinical.

Carbondale facilities include extensive and well-equipped laboratories at Southern Illinois University at Carbondale, Memorial Hospital of Carbondale, and public and private clinical facilities. In Springfield, St. John's Hospital and Memorial Medical Center, each having about 700 beds, are utilized. The Medical Instructional Facility in Springfield accommodates 200 medical students.

College of Science

NORMAN J. DOORENBOS, *Dean*

Departments: Botany; Chemistry and Biochemistry; Geology; Microbiology; Physics and Astronomy; Physiology; Zoology

The College of Science offers majors, and in most cases minors, leading to the Bachelor of Arts and Bachelor of Science degrees in the following fields of study:

Biological Sciences

Botany

Chemistry

Geology

Microbiology

Physics

Mathematics

Physiology

Zoology

A minor in earth science is also offered.

Included in the curriculum of each department are survey courses that provide an introduction to the subject matter of that discipline while fulfilling the General Studies requirements of Southern Illinois University at Carbondale. These courses assist all students to develop an understanding and appreciation of the impact of science on one's daily life. Elementary and advanced courses are provided to prepare students for professional employment or entrance into professional and graduate schools. Graduate training is also provided by each of the science departments leading to the M.S. or Ph.D. degree. The research interests of the faculty are extremely diverse.

Students in the College of Science may prepare for teaching at the secondary level by fulfilling the additional requirements of the College of Education. The Bachelor of Arts or the Bachelor of Science degree is granted to students who fulfill the requirements for graduation as given and the requirements of the departments in which the students declare their majors.

Each department has specific requirements for students to major in the selected field of interest, but the College of Science has some minimum general requirements listed below.

ACADEMIC REQUIREMENTS

None of these general academic requirements may be satisfied by taking the required courses on a Pass/Fail grading basis.

Biological Sciences. Six semester hours in courses offered by the biological sciences departments in the college, with the proviso that this requirement cannot be satisfied in whole or in part by General Studies courses, but may be substituted for the latter in meeting the General Studies requirements.

Foreign Language. The foreign language requirement can be met by one of the following: (a) passing an 8-hour 100-level sequence in one language; (b) by earning 8 hours of 100-level credit in one language by proficiency examination; or (c) completing three years of one language in high school with no grade lower than C. Tests administered during advisement of new students will determine whether proficiency credit is allowable.

A student whose native language is not English may use the native language to satisfy part or all of the science foreign language requirement at Southern Illinois University at Carbondale. If the language is presently taught at Southern Illinois University at Carbondale, academic credit may be earned. If the language is not presently taught at Southern Illinois University at Carbondale, no credit is given, but partial or full satisfaction of the science foreign language requirement may be granted if the student's major department so recommends. A student whose native language is English but who has learned another language not taught at Southern Illinois University at Carbondale may qualify without credit for partial or full satisfaction of the science foreign language requirement under certain circumstances, including formal recommendation by the student's major department and availability of an examiner and examination materials within the Department of Foreign Languages and Literatures. For information, the student should consult the College of Science advisement center.

Mathematics. The mathematics requirement can be met by (a) passing Mathematics 110a, b or 111 or its equivalent or Mathematics 140, or (b) completing three years of high school mathematics with no grade lower than C and achieving a score on the University's Mathematics Placement Test which allows the student to enroll directly in Mathematics 150.

Physical Sciences. Six semester hours in courses offered by the physical science

departments of the college, with the proviso that this requirement cannot be satisfied in whole or in part by General Studies courses, but may be substituted for the latter in meeting the General Studies requirements.

General Requirements. At least 40 hours of the student's 120 hours for graduation must be at the 300 or 400 level. The total may include transfer credit for courses judged by the department involved to be equivalent to its upper division courses. For transfer students submitting only the last year in residence, at least 24 of these must be at the 300 or 400 level.

PREPROFESSIONAL COURSES

A student planning a professional career in any of the following fields should register in the College of Science immediately: dentistry, medicine, optometry, physical therapy, podiatry, pharmacy, veterinary science. Preprofessional students should refer to the baccalaureate degree section in this chapter.

School of Technical Careers

HARRY G. MILLER, *Dean*

The School of Technical Careers is a unit unique to Southern Illinois University at Carbondale among institutions of higher learning. It was created in 1973 to offer a Bachelor of Science degree program tailored for occupationally-oriented students as well as associate degree career and technical programs formerly conducted by the Vocational-Technical Institute.

The educational objectives of the school include:

1. Associate degree programs structured for entry of new students or free flow of students from other institutions or from within other units of the University;
2. Post- or extra-associate offerings in occupational areas related to these programs; and
3. Baccalaureate programs for the student whose career goals are not met by existing or traditional college programs.

Associate degree programs are offered in four general areas: allied health and public services, applied technologies, aviation technologies, and graphic communications.

On the baccalaureate level, the School of Technical Careers offers the Bachelor of Science degree.

Qualified candidates for the Capstone Program are accepted into the baccalaureate program. The Capstone Program is described earlier in this chapter.

Currently, the School of Technical Careers offers majors leading to the Associate in Applied Science degree. These are:

Allied Health Career Specialties	Law Enforcement
Architectural Technology	Mortuary Science and Funeral Service
Automotive Technology	Nursing
Aviation Technology	Photographic Production Technology
Avionics Technology	Physical Therapist Assistant
Commercial Graphics—Design	Radiologic Technology
Construction Technology—Building	Respiratory Therapy Technology
Construction Technology—Civil	Secretarial and Office Specialties
Correctional Services	Tool and Manufacturing Technology (Numerical Control)
Dental Hygiene	
Dental Laboratory Technology	
Electronic Data Processing	
Electronics Technology	

A number of these majors offer third year post-associate specializations to provide the student who holds the associate degree with additional competencies.

Requirements for associate degree programs are listed in Chapter 4 of the Undergraduate Catalog.

Programs in allied health career specialties, dental hygiene, dental laboratory technology, electronics technology, mortuary science and funeral service, secretarial and office specialties, nursing, and the baccalaureate studies division are housed in a new three-story structure near the Arena. Occupied during the 1978-1979 school year, it is the first of two buildings planned to fit the specific laboratory and clinical facilities needs of the School of Technical Careers. Aviation programs are permanently located at the Southern Illinois Airport; other programs are housed in temporary facilities on the Carbondale campus and at facilities near Carterville.

Information on the school, its programs, and course offerings is available through the office of the dean, School of Technical Careers, Carbondale.

Other Academic Activities

Library Affairs

Morris Library, named after the late Delyte W. Morris, University president from 1948 to 1970, is an eight-level building which contains approximately 1,560,000 volumes, some 16,800 current periodicals and serials, and 1,725,000 units of microforms. Collections of government documents, maps, films, framed art prints, and phonograph records exist as well. With the exception of those in the special collections, most books and journals are arranged on open shelves and are accessible for browsing.

Morris Library houses four subject divisions (education/psychology, humanities, science, and social studies), a reserve reading room, learning resources service, special collections, and the undergraduate library. Microtext reading equipment is available in each subject division and the undergraduate library; the phonograph collection and listening equipment are provided in the humanities division. A central card catalog, identifying most of the collection, is located on the first floor; as is the central circulation desk where materials are checked out, using an automated circulation system. The browsing room, located on the first floor contains recent books of a popular nature to provide recreational and avocational reading. Coin-operated photocopying machines are available to patrons on each floor.

The undergraduate library, located on the first floor, contains a collection of some 95,000 volumes that are considered basic to the undergraduate curriculum. A professional staff is available to provide special attention to the needs of undergraduate students and assist them in finding information they want in a universe of materials as large and complex as a research library.

An on-line bibliographic search service offers over 100 machine-readable data bases which may be searched via a computer terminal. Reference librarians in each subject division are available to aid the researcher in developing a search strategy to obtain a computer-produced bibliography on a variety of topics.

Morris Library is linked to the Library Computer System (LCS), which will provide in-state on-line circulation control to participating libraries and to offer computerized interlibrary loan activity between participating academic libraries in order to promote improved and enhanced resources sharing on a state-wide basis.

Learning Resources Service, located in the basement of Morris Library, provides a broad range of instructional support services which seek to maximize student learning through the creation of outstanding instruction. The Learning Resources Service is divided into three units, each designed to provide specific instructional support services. The instructional development unit consists of faculty members who are available to faculty and teaching staff for consultation on the teaching-

learning process. This staff works with faculty in the systematic analysis, design, and evaluation of instruction. The media services unit provides media support to faculty through the film library, photographic and graphics production, and the self instruction center, where students can utilize audio-visual media designed to support classroom instruction. The student media design laboratory is also found within the self instruction center. The student media design laboratory enables students to produce instructional media for classes, projects, and student teaching experiences. The campus services unit provides and maintains audio-visual support for campus as a whole. Professional assistance is available when utilizing learning resources service and services are provided free or at a nominal cost.

Special collections, on the second floor, maintains the rare books collection, manuscripts and University archives. It contains important research collections in American and British expatriate literature, twentieth century philosophy, proletarian theatre, the Irish literary renaissance, and press freedom. The use of these non-circulating materials is restricted to those doing research, but others are encouraged to visit the area and view the numerous exhibits. The major editorial projects, The Center for (John) Dewey Studies and the Ulysses S. Grant Association, compile, edit, and publish the works of these individuals.

Credit courses in bibliographic instruction, library use, and information retrieval are offered on a regular basis and a wide range of information and orientation brochures and materials, as well as a multi-media slide/tape presentation, are available.

The library faculty and staff recognize the complexity involved in using a research library and are eager to help students, faculty, staff, and others in their information needs.

Division of Continuing Education

The Division of Continuing Education expands the University's educational mission beyond regular course offerings and campus boundaries. The division's off-campus credit programs, the on-campus evening and weekend program, noncredit classes, workshops and conferences, the Labor Institute, and the Touch of Nature Environmental Center offer the University's resources to a variety of groups at selected sites.

Off-Campus Credit. Off-Campus credit programs are designed to meet the educational needs of working adults or those who cannot travel frequently to the Carbondale campus to complete their degrees. Faculty teaching off-campus courses are approved by the appropriate department. Graduate courses in agriculture, education, engineering, and rehabilitation administration, as well as undergraduate courses in occupational education are offered throughout Illinois. Full undergraduate degree programs in University Studies and industrial technology are also available to the off-campus student.

Individualized Learning. Individuals who cannot attend classes at scheduled times may wish to enroll in an individualized learning course. Such courses are designed to be completed by the students at their own pace and time and, in many instances, in their own home. All courses in the individualized learning program are developed by University faculty and approved for academic credit. Occasionally such courses utilize the broadcast resources of WSIU-TV.

Evening and Weekend Program. The evening and weekend program provides individuals within commuting distance of the Carbondale campus the opportunity to take up to 26 undergraduate hours of college work after 4 P.M. and on weekends. Tuition is the same as all other undergraduate courses, but students in the program pay reduced fees. Certain campus services are restricted to these students.

Individuals who possess a high school diploma or GED certificate and who are

not enrolled in Southern Illinois University at Carbondale during the twelve months prior to application for the Evening and Weekend Program are eligible for admission. Students may take up to eight hours of credit during fall and spring semesters and five hours during summer session. The evening and weekend program office is open one evening a week during registration periods for adults who wish to enroll or inquire about the program.

Travel/Study Program. Travel/study courses take place during intersession as well as during the summer months. Students must register four to six months prior to the start of the course and may earn graduate or undergraduate credit depending upon the nature of the course. Approximately ten offerings are available during each academic year, ranging in length from one week to one year. Courses are taught by full-time faculty of Southern Illinois University at Carbondale and are offered worldwide. Most travel/study courses do not require a specialized foreign language background.

Conferences and Adult Education Courses. Conferences, workshops, seminars, and symposia in virtually every field of study are conducted either on or off campus, at the most convenient site for participants. The division assists with all aspects of program and development and implementation, including identification of the clients, design of the program, selection of the facility and final evaluation and report. Major emphasis is placed upon utilizing the campus for the annual national conferences and conventions of professional and specialized organizations.

Adult education non-credit courses feature instruction by University faculty, as well as carefully selected specialists from business, industry, and other professions. A spectrum of educational opportunities are available to residents of southern Illinois, including vocational and technical classes and general education offerings in the arts and humanities. Continuing Education Units (CEUs) are available for many of the conferences and adult education courses offered by the division.

A special opportunity is offered to local residents of the southern Illinois region through the community listener's program. With the approval of the instructor, community members may for a modest fee sit in on courses that are a part of the undergraduate curriculum.

Labor Institute. The Labor Institute organizes and promotes programs of education in the labor field designed to serve workers, employers, and the general public. Emphasis is placed upon apprenticeship instruction and classes which offer preparation for the trades.

Touch of Nature Environmental Center. The Touch of Nature Environmental Center is a three thousand acre facility located eight miles southeast of Carbondale on Little Grassy Lake. It offers credit and non-credit programs serving students, University faculty, and community residents. Programs of the center include a challenge wilderness program for children and adults, recreational programs for the handicapped, emergency and rescue training, human enrichment courses, and environmental workshops for high school students.

Its newly remodeled facilities enable the center to host programs for business groups, educational organizations, and the general public. In addition, the center serves as a field site for the Departments of Botany, Forestry, Recreation, Special Education, and Zoology.

Military Programs

The Office of Military Programs is the central administrative unit for Southern

Illinois University at Carbondale's various programs for military personnel. Currently, these programs include the final two years of baccalaureate programs offered through the College of Education, the School of Technical Careers, and the College of Engineering and Technology. The office serves as the principal point of contact and represents the University with external agencies in matters pertaining to educational programs at military bases. For additional information refer to the section on student work and financial assistance in this chapter and to Capstone Program and credit granted for military experiences in chapter 2. Additional information may also be found in chapters 3 and 4 of the academic unit descriptions and majors. Students interested in admission should consult the Southern Illinois University at Carbondale base representative on the appropriate military base.

Aerospace Studies — Air Force ROTC

Aerospace Studies offers a two-year and a four-year program which are open to both men and women, leading to a commission in the United States Air Force. The four-year program is divided into the General Military Course (GMC), covering the freshman and sophomore years, and the Professional Officer Course (POC), covering the last two years. Students qualify to enter the two-year program at the POC level by attending a six-week field training course during the preceding summer.

The GMC prepares students for the POC and provides them with an education for space age citizenship of long range value whether they remain civilians or become officers in the U.S. Air Force. The courses of the POC are designed to provide the basic knowledge, understandings, and experiences which are required to become an effective junior officer in the modern air force. The student learns about the wide range of USAF career specialties open and has an opportunity to request duty in those fields where qualified. Those qualified as pilots, who do not already fly, receive 25 hours of flying training plus ground school instruction during their final year before graduation.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for full scholarships for their remaining years at the University. In addition to full tuition and fees, the scholarship provides a monthly tax-free subsistence allowance. Also, two-year AFROTC and State of Illinois (Senate Bill 381) scholarships are available on a competitive basis.

In addition to the courses offered for academic credit, Aerospace Studies sponsors related extracurricular activities. The Aerospace Club is open to all members of the student body. The Arnold Air Society, a national honorary service organization, is open to selected AFROTC cadets. Membership in the Angel Flight, an auxiliary of the Arnold Air Society, is open to selected undergraduate women. Angel Flight assists with community and campus service-oriented projects. The Black Phantom Drill Team is open to selected AFROTC cadets on a competitive basis. Members participate in local community events and in selected drill competition meets. The Air Commando Unit is open to all members of the GMC. Members specialize in outdoor training, exercises such as survival, first aid, navigation, and mountaineering.

Further information may be obtained from Aerospace Studies, 807 South University Avenue, 453-2841.

Army Military Science — Army ROTC

The senior army military science program offers a progressive adventure-filled two-year and four-year program, for both men and women designed to teach students the leadership and management skills needed to pursue an exciting career in the United States Army. The four-year program is divided into the basic course, covering the freshman and sophomore years, and the advanced course, covering the junior and senior years. Students qualify for direct entry into the advanced

course level (two-year program), by completing a six-week basic leadership practical at Fort Knox, Kentucky.

Veterans, National Guard, or army reserve personnel, students who have completed the basic course, and students who have completed three or more years of junior ROTC may also qualify for entry into the advanced ROTC course. Students may enter the advanced course once prerequisites are met, regardless of their academic year in school.

The basic course prepares the students for the advanced course and provides them with an education in citizenship, basic leadership and management skills, and personal enrichment experiences of long range value regardless of their future occupations. The advanced course is designed to provide basic knowledge, encompassing a wide range of subjects dealing with organizational and managerial leadership to the United States Army military history. The understandings and experiences derived from these courses and adventure training exercise are required to enable a student to grow into an effective junior officer in the U.S. Army.

The student additionally learns about the wide range of army career specialties open and has the opportunity to request duty in those fields where qualified. Students may request and be guaranteed reserve forces duty (RFD). Students completing the advanced course prior to graduating may request early commissioning in the army reserves or National Guard. Those students currently in the guard or army reserves may continue to participate in the guard/reserve unit and pursue a commission through the army's simultaneous membership program. Those students who qualify and are contracted for the advanced ROTC program will receive \$100 per month subsistence allowance during the school year.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for army military science scholarships for one, two, and three years. These scholarships pay full tuition, fees, books, and a \$100 per month subsistence allowance. Any Southern Illinois University at Carbondale student who has at least two academic years of school remaining and who can meet advanced course prerequisites may compete for any army ROTC scholarship. Illinois residents, who are enrolled in ROTC, can compete for state army ROTC scholarships, which pay tuition and other selected fees.

In addition to courses offered for academic credit, the army military science department sponsors extracurricular activities from elite ROTC organization to adventure training. The Ranger Company, Drill Team, and Color Guard are open to all ROTC students. The Pershing Rifles and Scabbard and Blade are national honorary societies open to selected army military science cadets. Adventure training takes shape in the form of rappelling clinics conducted at Giant City State Park, field training exercises, and survival training conducted at Touch of Nature Environmental Center and Shawnee National Forest. An army orientation visit to a military installation will take place during a portion of the spring break and it too is open to all ROTC students.

Further information may be obtained from army military science, telephone (Area Code 618) 453-5786.

4 Undergraduate Curricula and Courses

This chapter contains information about the undergraduate curricula and courses offered by Southern Illinois University at Carbondale. The course descriptions for undergraduate courses are included, but those courses offered for graduate students list only the credit hours and title of the course. The descriptions of graduate level courses are included in the Graduate Catalog. Chapter 1 of this bulletin includes a listing of the undergraduate majors and minors offered. Those majors and minors are included in this chapter with a description of the requirements for their completion. This chapter is arranged in alphabetical order.

Abbreviations Used in this Chapter

Specific courses are identified by three-digit numerals plus, in some cases, a single letter. The first numeral of the three indicates the level of that course. A letter following the three numerals may indicate a *part* of a course (where *a* means first part, *b* means second part, etc.) or may identify the topics or subject areas specified in courses such as readings or special problems. A numeral or numerals separated from the identification number by a dash indicates the number of hours of credit received in the course. For example, Mathematics 110-5 (3,2) indicates a first-level, two-part course of 5 hours in the Department of Mathematics. The two parts of the course may be referred to as Mathematics 110a, b.

The five areas of General Studies are referred to as GSA, GSB, GSC, GSD and GSE. The three-digit numerals following these abbreviations function similarly to those noted above.

In the areas of this chapter which describe course requirements for programs, numerals in parentheses in columns of figures pertain to semester hours which satisfy more than one requirement. They are in parentheses to avoid their being added to the total of the column, which would be a duplication of hours required. For example, under food and nutrition, GSA 115 and 209 satisfy part of the General Studies requirements and contribute 6 hours toward the 45 hours required. The 6 hours is also required for the major in food and nutrition, but does not contribute to the printed total of 53-54 hours.

Course Descriptions

The first entry for each course is a three digit numeral plus, in some cases, a single letter which together with the subject area, serves to identify the course. The first digit indicates that the course is for freshmen, sophomores, juniors, seniors, and graduate students only, depending on whether the digit is 1, 2, 3, 4, or 5 respectively. If the digit is 0, the course is not properly in the above categories.

Following the identification number are a dash and another number, which indicates credit allowed for the course. The maximum credit may be variable, such as Accounting 491-1 to 6. Variable credit courses which have a number of credit hours per semester or per topic which is limited, have those limits in parentheses

following the total maximum hours of credit. An example of such a course is Administration of Justice 492-2 to 6 (2 to 3 per semester). Where courses are formally divided into parts, such as History 330-6 (3,3), the two or more numerals separated by commas in parentheses indicate the credit allowed for each part of the course.

Next is the title, followed by description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites. If a course is a part of the undergraduate pass/fail system, it is so indicated by the term "Elective Pass/Fail" or "Mandatory Pass/Fail."

Not all of the courses described here are offered every semester or even every year. To determine when and where a course is to be offered, consult the schedule of classes obtainable from University Graphics, Southern Illinois University, Carbondale, Illinois 62901. When requesting a schedule, please specify *semester*.

General Studies Courses

OUR PHYSICAL ENVIRONMENT AND BIOLOGICAL INHERITANCE (GSA)

Courses

101-3 Conceptual Insights Into Modern Communication Systems: From Hi-Fi Sound to Laser Beams. The basic laws of nature will be presented in order to understand the functioning of modern communications such as high fidelity sound, radio, and television, and laser beams. There will be a strong emphasis on the nature of home entertainment equipment with discussions on the nature of waves and sound, electricity, and electromagnetism. The students will develop an understanding of the technical vocabulary necessary to judge high fidelity equipment.

106-3 Chemistry for Non-Science Majors. Selected discussions of inorganic, organic and biological chemistry and the relationship to our standard of living and quality of our health and environment. Three lectures with one voluntary help session per week.

110-3 Earth Science. Earth and its major domains with Earth's substances and processes emphasized. Lecture, laboratory. Laboratory manual \$3. Elective Pass/Fail.

115-3 Biology. For students with a weak biology background or for students who are non-biology majors but have an interest in gaining general knowledge of our biological inheritance. An introduction to the evolutionary development of our physical and biological environment, to the biological problems and processes of a model living organism, and to the role of biological research in the world of the future. Lecture-laboratory. Laboratory manual \$4. Elective Pass/Fail.

125-3 Systems Nature of Our World. (Same as GSB 125.) Introduction to the elements of the systems view of the world. The impact of the systems reality on modern life and its simplifying power in science will be stressed.

202-3 Space Science—Astronomy. The solar system, our galaxy, and the universe beyond. Fundamental concepts of the physical sciences as applied in astronomy to our space environment. Lectures will be supplemented by demonstrations and by occasional hours of individual or supervised astronomical observations. Not open to students who have had Physics 302 or GSA 102B. Purchase of exercise sheets under \$1. Elective Pass/Fail.

208-1 Laboratory Experiences in Physiology. Laboratory course to be taken concurrently with GSA 209. Provides experiences with small animal experimentation and measurements made on the human subject. One two-hour laboratory per week. Prerequisite: concurrent enrollment in GSA 209.

209-3 Principles of Physiology. A comprehensive introductory analysis of the functional machinery of the living body, with emphasis on human physiology. Three lecture hours per week. Not open to students who have taken Physiology 210. Prerequisite: a background in biological science recommended. Elective Pass/Fail.

211-3 Geology of the National Parks. A study of the geologic histories of selected national parks and national monuments. Lectures relate the natural scenic features to geologic processes that have occurred in forming the scenic features. Elective Pass/Fail.

214-3 Human Heredity. Principles of heredity as related to humans, with emphasis on the effects of environment on the biological inheritance.

220-3 Survival of Man. (Same as GSB 220.) Topics discussed include the interrelated technological and sociological aspects of the environmental problems concerned with population, food, ecology, water and solid waste. Emphasis is placed on understanding the total context in which environmental problems must be considered. GSA/B 220 and GSA/B/C 221 may be

taken independently; if both 220 and 221 are taken, only three hours may be counted in a given area of General Studies, but three hours may be counted for the three additional hours required for areas A, B, and/or C.

221-3 Survival of Man. (Same as GSB 221 and GSC 221.) Topics discussed include the interrelated ethnological, technological, sociological, moral and ethical aspects of the environmental problems concerned with technology, air pollution, urbanization, natural resource utilization, agriculture and aesthetics. Emphasis is placed on understanding the total context in which environmental problems must be considered. GSA/B 220 and GSA/B/C 221 may be taken independently; if both 220 and 221 are taken, only three hours may be counted in a given area of General Studies, but three hours may be counted for the three additional hours required for areas A, B, and/or C.

230-3 Energy and the Future. Lectures on power, energy, and related concepts. Review of current energy resources and use patterns and outlook for changing patterns including overview of new energy conversion technology and environmental impact of energy use. Look at energy from global viewpoint to identify future limits on energy usage. Voluntary class discussions and student paper presentations.

240-3 Ecology. Fundamental biological and ecological processes important in the individual, population, and community life of organisms including humans are discussed in the context of ecological systems. Lectures are supplemented by one hour of laboratory, field work, or other student options. Elective Pass/Fail.

302-3 Psychobiology. A survey of the role of biological processes in the behavior of humans and other species. Topics covered include structure and function of the nervous system, behavioral endocrinology, psychopharmacology, sensorimotor functions, sleep and waking, motivation, emotions, reinforcement, psychopathology, learning and memory.

303-3 Ferns, Trees, and Wild Flowers. Field identification and natural history of local plants. One lecture and four hours of field work per week.

312-3 Conservation of Natural Resources. A study of people's use and misuse of natural environment emphasizing the ecological perspective.

313-2 Evolution. Principles and processes of the evolution of living things including people.

321-3 Fossils: Keys to Ancient Life and Environments. A knowledge of the origin, development, and distribution of Ancient Life, environments and relations of life to environments is gained through the study of fossils and associated rocks. Examples of ancient environments, their fluctuations and changes are compared with fluctuations and changes in modern environments. Elective Pass/Fail.

322-3 Earth's Mineral Resources. Acquaints the nonprofessional with the origin, distribution, character, and value of the common minerals and rocks in the Earth's crust. Purchase of lab manual and student-financed field trips. Elective Pass/Fail.

323-3 Introduction to Gems and Gem Materials. Geologic environments, aesthetic considerations, and economic values of different gems are discussed in lecture. Identifications, evaluations, and preparation of gemstones will be presented in laboratory. Additional charge for materials: \$10. Elective Pass/Fail.

324-3 Water: Our Friend and Enemy. A practical treatment of the relationship between water, surface processes and daily living. Case histories demonstrate why water related disasters occur, including flooding, landslides, beach erosion and subsidence. Water supply and its legal and economic problems for individual property owners and communities are examined. Elective Pass/Fail.

330-3 Weather. Introduction to constituents and processes in the Earth's atmospheric environment; major atmospheric variables; major features, characteristics of the atmosphere; elemental principles of forecasting; meteorological causes of atmospheric pollution. Interaction of processes and variables to define climate for various regions of the world. Charges not to exceed \$10 for field trips, \$5 for supplies. Elective Pass/Fail.

361-3 Acoustics of Music. A survey of the production, transmission, and reception of sounds with emphasis on musical sounds including the operation and characteristics of all major instruments including the voice. Related areas include respiration; the hearing process; binaural, stereophonic, and quadraphonic sound; disc, tape, and optical recording; sound reproduction systems; architectural acoustics including design, construction, and materials; utilization of sound in other disciplines such as business, agriculture, medicine, the animal kingdom; acoustical laboratory equipment and research procedures; environmental sound pollution. Many guest specialists appear. A term paper or project of the student's choice dealing with sound provides for more intensive study in the primary areas of interest. No special training in music, science, or mathematics is required. Cost of textbook is approximately \$3.

OUR SOCIAL INHERITANCE AND SOCIAL RESPONSIBILITIES (GSB)

Courses

103-3 Geography of the Human Environment. Provides students with basic information on

the nature and problems associated with the major environments of the world. The geographical distribution of climate and physiographic elements of world environments are described. The problems of economic development, environmental change, and the relation of people to the land in the major regions of the world are investigated. Purchase of materials in the range of \$4.

104-3 The Human Experience: Anthropology. The main ideas of the anthropological approach to the study of humans. Anthropology's relevance to the student in today's world shown through examples drawn from the subject matter of the field.

105-3 The Contemporary World. An examination of the fundamental problems of the contemporary era as seen in historical perspective. No credit toward the major in history. Purchase of books and materials in the range of \$7. Elective Pass/Fail.

109-3 Introduction to Black America. (Same as GSC 109.) A survey course designed to expose the student to various aspects of the Black experience. Aspects included are history, literature, theology, the arts, etc. The textbook is a collection of essays designed for use especially in this course and is supplemented by guest lecturers and audiovisual materials.

111-3 Economic Development of Western Civilization. Emphasizes the underlying trends and forces that have led to the present economic structure of the developed world. The commercial and industrial revolution as well as the rise of the market system and capitalism are treated in their historical context. Elective Pass/Fail.

112-3 Comparative Economic Systems. Introductory analysis of capitalism, socialism, communism as social systems. Each system is examined in terms of its economic, political and social organization. Elective Pass/Fail.

125-3 Systems Nature of Our World. (See GSA 125.)

135-3 The Third World: The African Model. A study of the Third World through a focus on Africa as a model; emphasis on the cultural traditions, the impact of the West, and the problems facing Third World nations today.

160-3 Mass Communication in Society. Acquaints non-journalism students with the history and development of the American mass media. Examines media roles in society, potential for development, weak points, and the roles consumers can and should play regarding the media.

202-3 Introduction to Psychology. An examination of the variables related to the origins and modifications of human behavior using the viewpoints and techniques of contemporary psychology. Purchase of syllabus (about \$3.00 to \$3.50).

203-4 The Sociological Perspective. A survey of topics that investigates the range of social relationships among people: basic sociological concepts and theories, social groups, social institutions, social and cultural change, and social deviance. Elective Pass/Fail.

205-3 Consumer Decision-Making. To acquaint students with the influence of resource limitations, markets, government, and other socio-cultural forces on individual consumption decision; to analyze the information and apply the economic principles relevant to rational decisions; to increase awareness of consumer rights and responsibilities and the consumer's role in the economy. Students should be able to make more effective purchase decisions and to critically appraise the U.S. economy from the viewpoint of consumers.

206-3 Applied Child Development. An interdisciplinary study of the changes that take place in a child from birth to maturity. Purchase of book in the range of \$5.

207-3 Contemporary Political Ideologies. A survey of recent political ideologies: Nationalism, Socialism, Communism, Liberal Democracy, Conservatism, Christian Socialism, Fascism, Contemporary Liberation Movements. Elective Pass/Fail.

211-3 Contemporary Economics. A study of the basic economic problems confronting America and the world today. This course gives students a broad latitude in the structuring of topics to be discussed. Problems are discussed from the point of view of public policy as well as theory. Elective Pass/Fail.

212-4 Introduction to American Government and Politics. An introduction to American government including the cultural context, structure and functions of the national political system, and some attention to subnational politics. Elective Pass/Fail.

220-3 Survival of Man. (See GSA 220.)

221-3 Survival of Man. (See GSA 221.)

223-3 The Sexes in the Modern World: The Social Science Perspective. (Same as Women's Studies 221.) To acquaint the student with the role and status of women and men in the modern world. The nature of women's oppression will be explored. An interdisciplinary approach will be taken to explain the inequalities. The institutionalization of sex roles through various social systems will be examined.

231-2 The American Educational Systems. A comprehensive study of the nature and purpose of education in the United States and of how our schools are organized, financed, and conducted.

250-3 Introduction to Comparative Government and Politics. A general introduction to the comparative study of political systems with focus on selected contemporary states. Elective Pass/Fail.

255-3 Regional Geography of the United States. A survey of environmental, economic, and historical factors and problems in the development of the United States and its regions. Some attention given to the United States in world perspective.

270-3 Introduction to International Relations. A study of world politics. The cause of international conflict and conditions of peace. Elective Pass/Fail.

299d-2 The High Price of Food. Understanding various forces or components affecting food prices; examination of how changes in these components affect quantity and quality of food; discussion of rational consumer action in matters pertaining to food prices. Elective Pass/Fail.

299e-3 Values, Systems, and Society. Values and ethics in evolutionary systems and cultural perspectives will be critically analyzed. A review of the basic problems of survival and further evolution of civilization.

300-3 Origins of Modern America, 1492-1877. A general survey of the political, social, and economic development of the United States from 1492 to 1877. Purchase of books and materials in the range of \$7. Elective Pass/Fail.

301-3 Modern America from 1877 to the Present. A general survey of the political, social, and economic development of the United States from 1877 to the present. Purchase of books and materials in the range of \$7. Elective Pass/Fail.

305-3 Personal Finance. An introduction to the problems of personal financial asset management, including income and expense budgeting. Emphasis also placed on consumer credit, insurance, investments, home ownership and taxation. Not open to students with majors in the College of Business and Administration. Elective Pass/Fail.

321-3 Socialization of the Individual. Inquiry into a variety of social psychological perspectives on human socializations through the life-cycle. Comparative examination of major theoretical approaches and related empirical research concerning socialization of the child, socialization of the adult, sex-role socialization, re-socialization, socialization and sub-culture patterns, and related topics. Elective Pass/Fail.

325-3 Race and Minority Relations. To acquaint students with race and minority groups relations as a social problem; forms, extent, distribution, trends, causes, effects, and evaluations of proposals for reduction of prejudice and discrimination. Blacks, Mexican-Americans, Indians, Japanese-Americans, anti-Semitism, and minority problems in South Africa, India, and other countries included. Elective Pass/Fail.

330-3 Language and Behavior. A wide-ranging examination of the implications of language study for people's view of themselves and their place in the world. Topics deal with the pervasiveness of verbal and non-verbal language in various aspects of modern society. Elective Pass/Fail.

341-3 Marriage as a Social Institution. A sociological examination of interpersonal relationships in contemporary American dating, courtship, and marriage, with an historical and cross-cultural perspective. Elective Pass/Fail.

346-3 Consumer Choice and Behavior. Analysis and overview of consumer behavior, historical as well as present day, with identification of theories related to the choices.

362-3 Science and Technology in Western Societies. A study of the origins, development, and significance of science and technology in the shaping of western societies from the beginnings through the scientific revolution. Historical, philosophical, and sociological perspectives will be used to understand the relationships between science and technology and between these and other cultural and religious values. See also the related course, GSC 362. Elective Pass/Fail.

378-3 Introduction to American Foreign Policy. An investigation of the means by which American foreign policy is formulated and executed and an analysis of the most significant challenges confronting America abroad. Elective Pass/Fail.

OUR INSIGHTS AND APPRECIATIONS (GSC)

Courses

100-3 Music Understanding. The aural perception of musical sound events, relationships, and structures. Helps the student to become a more sensitive and perceptive listener. Listening assignments include a wide variety of styles and kinds of music. Not historically oriented. Elective Pass/Fail.

101-3 Introduction to Art. A basic introduction to the theory, meaning, and creation of visual art with emphasis upon interdisciplinary concerns. Two hours lecture and two hours studio per week. Possible incidental fee maximum \$5.

102-3 Problems in Philosophy. Introductory survey of some main philosophic problems concerning people, nature, society, and God, as discussed by major Western thinkers. Possible supplementary paperback expense not to exceed \$5. Elective Pass/Fail.

103-3 Introduction to Theater. Introduces students to the world of theater. Through lectures, films, plays, and text readings, students examine various aspects of theater, including history, aesthetics, criticism, and production. The course provides a general background in theater and an opportunity to develop an understanding and appreciation of this art form.

104-3 Moral Decision. Introduction to contemporary and perennial problems of personal and social morality, and to methods proposed for their resolution by great thinkers of past and present. Elective Pass/Fail.

107-2 Life, Leisure, and Recreation. Introduction to the meaning, challenges, and problems of leisure. Analyzes leisure's relation to work, education, religion, recreation, and the totality of life. An attempt is made to help students develop insights, values, and attitudes for self-realization and individual fulfillment in leisure pursuits. For non-recreation majors only.

109-3 Introduction to Black America. (See GSB 109.)

200-3 Oral Interpretation of Literature. Beginning study of the oral interpretation of literature: appreciation, analysis, performance. Emphasis is upon literature as human experience and upon the creative role of the reader in engaging the literary text. Incidental costs not to exceed \$2. Elective Pass/Fail.

201-3 Introduction to Drama. Students will read and discuss plays of different types and periods. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

202-3 Introduction to Poetry. Students will read and discuss poems of different types and periods. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

204-3 Meaning in the Visual Arts. Designed to provide students a broad understanding of the history of art and its relation and implications to contemporary culture. Emphasis is placed on the relation of art to all disciplines, historical and contemporary.

205-3 Innovation for the Contemporary Environment. A variety of factors affecting creative individual and small group problem solving and its relevance to the contemporary environment are explored in theory and in practice. Purchase of book \$4.50. Elective Pass/Fail.

206-3 Music as a Creative Experience. Students experiment with various ways of creating musical sound structures, and engage in active, critical listening, as a means to a better understanding of the nature of musical experience. Not historically oriented. Elective Pass/Fail.

207-2 Aesthetics. The structure and importance of the beautiful in nature, society, personality, and the arts. Elective Pass/Fail.

208-3 Elementary Logic. Study of the basic forms of reasoning, with emphasis on the evaluation of arguments encountered in every-day life. Elective Pass/Fail.

210-3 Introduction to Fiction. Students will read and discuss a variety of American and European short stories and novels. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

212-3 Oriental Humanities. The literature, music, drama, visual art, and definitive cultural motifs of Asia, with emphasis on China and Japan. Elective Pass/Fail.

214-3 Oriental Philosophies. Examination of world outlooks and life outlooks of major Oriental philosophic traditions: Hinduism, Buddhism, Confucianism, and Taoism. Elective Pass/Fail.

216-3 Types of Eastern Religion. An introductory study of selected African and Eastern religious traditions, emphasizing their meanings for their respective participants, their socio-political contexts, and their contributions to the religious history of civilization. Not open to students who have had GSC 215. Elective Pass/Fail.

217-3 Types of Western Religion. Introductory study of the basic phenomena of religion among American Indians, the ancient Greeks, Jews, Christians, and Moslems, emphasizing socio-political-aesthetic contexts and contemporary relevance. Not open to students who have had GSC 215. Elective Pass/Fail.

218-3 The Epic of Humanity. A world history of human civilizations to the present. Emphasis on the changes and evolutions of societies and cultures leading up to the emerging global village. Prerequisite: sophomore standing.

221-3 Survival of Man. (See GSA 221.)

222-3 Women and Men in the Modern World: Humanities. (Same as Women's Studies 222.) Survey of cultural imagery and ideology which have contributed to the definition of male and female in the humanities (art, literature, philosophy, myth, popular media, historical movements of the recent past). Elective Pass/Fail.

231-3 Greek Civilization. Women, Men, World: A study of ancient Greeks, their beliefs, values, emotions, literature, history, art, philosophy, against a background of the world they inhabited; i.e., their archaeology and geography. Elective Pass/Fail.

232-3 Roman Civilization. An introduction to the life and culture of ancient Rome by representative readings of Roman drama, history, epic, satire, lyric poetry, epistles, philosophy, against a background of political, social, economic, artistic developments. Elective Pass/Fail.

293-3 to 9 (3 per topic) Studies in Literature. The subjects of this course vary from section to section and from semester to semester. Students should consult the schedule of classes to learn the specific topics for each section each semester. Prerequisite: GSD 120; or 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

317-3 Recent American Literature. Reading and discussion of American literature since the second World War. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

325-3 Black American Writers. Poetry, drama, and fiction by Black American writers. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

330-3 Classical Mythology. An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans. Elective Pass/Fail.

335-3 The Short Story. Reading and discussion of short stories by American and European authors. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

340-3 The Western Cultural Tradition. The historical evolution of the visual arts, architecture, and music in the context of society and literature, from ancient Greece to the present. Elective Pass/Fail.

349-3 The Cinema. The cinema as a communicative and expressive medium. Study of film types illustrated by screenings of selected films. Screening fee: \$10. Elective Pass/Fail.

351-3 Women in Literature. (Same as Womens Studies 325). The course examines the ways in which women are portrayed in literature, especially in twentieth-century novels and short fiction written by women. The course includes films, slides, and guest lecturers. Prerequisite: GSD 101 and 117, 118, or 119; or GSD 120.

362-3 Science and Technology in Western Societies. A study of the development and significance of science and technology in the shaping of western societies since the scientific revolution. Historical, philosophical, and sociological perspectives will be used to understand the relationships between science and technology and between these and other cultural and religious values. See also the related course, GSB 362. Elective Pass/Fail.

365-3 Shakespeare. Reading and discussion of the major plays. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

371-2 Evolution of Jazz. Stylistic characteristics of jazz at various stages of its evolution. Societies and cultures from which it derived. Orientation is historical, sociological, and stylistic. Elective Pass/Fail.

390-3 Contemporary American Thought. Introductory survey of the main currents of contemporary philosophy in America and their relevance for legal, political, and educational developments. Elective Pass/Fail.

393-3 to 6 Studies in Literature. The subjects of this course vary from section to section and from semester to semester. Students should consult the schedule of classes to learn the specific topics for each section each semester. A screening fee of approximately \$15 will be charged for sections that require the showing of films. Prerequisite: GSD 120; GSD 101 and GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.

ORGANIZATION AND COMMUNICATION OF IDEAS (GSD)

Courses

101-3 English Composition. Basic principles of sentence structure, paragraphing, and organization. Purchase of handbook in the range of \$4 to \$5.

104-2 Grammar in Language. Description and explanation of the major grammatical categories and structures found in languages, including English. Consideration of the role of grammar in such topics as the nature, origin, acquisition, and variation of language. Course is designed to give students basic concepts of grammar and show the relationship of grammar to language.

106-0 Elementary Algebra. For students with less than one year of high school algebra, this course serves as the prerequisite for the following courses: GSD 107, 112, 113, and Math 114 and 116. Mandatory Pass/Fail.

107-4 Intermediate Algebra. Properties and operations of the number system. Elementary operations with polynomials and factoring. Elementary operations with algebraic fractions. Exponents, roots, and radicals. First and second degree equations and inequalities. Functions and graphing. Systems of equations and inequalities. Exponential and logarithmic functions. Prerequisite: one year of high school algebra or GSD 106.

110-2 Basic Applications of Statistics. The application of elementary statistical techniques in making decisions with respect to problems in everyday life. Examples are taken from such fields as political science, communications, health, consumer economics, psychology, etc. The main topics covered are descriptive statistics, some elements of probability theory, and statistical inference. Credit cannot be received for both GSD 110 and GSD 112. Prerequisite: one year of high school algebra or equivalent.

112-2 Basic Concepts of Statistics. Illustrates basic concepts of statistical theory. Emphasis on concepts rather than computational techniques. Main topics include data reduction, probability sampling, statistical estimation and decision procedures. Credit cannot be received for both GSD 110 and GSD 112. Prerequisite: one year of high school algebra or GSD 106.

113-2 Introduction to Mathematics. The development of some basic concepts of mathematics and their significance for society. An inexpensive, four-function pocket calculator with automatic constant feature is required. Prerequisite: one year of high school algebra or GSD 106.

117-2 Expository Writing. Practice in the writing of the composition, with emphasis on the

logic of organization, demonstration, and expression. Prerequisite: GSD 120, GSD 101 or equivalent.

118-2 Technical Report Writing. An introductory course in technical report presentation both written and oral, in library research methods, and in elementary business correspondence. Prerequisite: GSD 120, GSD 101 or equivalent.

119-2 Creative Writing. Practice in the writing of narrative and poetry. Prerequisite: GSD 120, GSD 101 or equivalent.

120-3 Freshman Honors Composition. Some important works in the history of thought by writers such as Plato, Dostoevsky, Freud, and Marx will be read and discussed. The intellectual problems which they raise will become the subjects for essays in which students are required to show mastery of various methods of organizing exposition. This course fulfills the University freshman composition requirement. Prerequisite: top ten percent of the English section of ACT or the qualifying score on the CLEP test.

152-2 Interpersonal Communication. Designed to enable students to better understand and exercise the process of thought formation and expression. Includes both theoretical content and performance sessions which are relevant to the interpersonal communication context.

153-3 Public Speaking. Principles of communication as applied to public settings (speaker/audience). Developing research and speaking skills in the preparation and presentation of various types of messages.

199a-1 Library as an Information Source. Designed to expose undergraduate students to the basic concepts and structures of the library. This would enable students to use their knowledge in completing reading and term paper assignments as well as in gaining confidence for independent work in the library.

199b-3 Computers and Communication. An introduction to the use of the computer as a means of facilitating interpersonal communication. Includes experience in interacting with computers and interacting with other persons with the assistance of computers.

HUMAN HEALTH AND WELL-BEING (GSE)

Courses

Courses numbered 100-106 are basic or beginning level courses; those numbered 114 are intermediate level. The instructor may have the right to evaluate the skill level of the student at the beginning of the course and reassign the student to the proper level or another activity. Most GSE physical education classes will be offered on a variable credit of one or two semester hours; one-hour courses meet two hours per week or equivalent; two-hour courses meet four hours per week or equivalent. All GSE physical education classes are available Elective Pass/Fail. Students will not be allowed to change from a one-hour to a two-hour section or vice versa after the university drop and add period. Students may not earn one semester hour for attending one-half of the sessions scheduled for a two semester hour course.

Appropriate clothing, as determined by instructor, is required for each class. For some activity classes, students are required to furnish equipment, provide own transportation, and pay a course charge.

100-1 to 4 (1 credit each time) Restricted Physical Education. For physically handicapped students as recommended by Health Service. Mandatory. Pass/Fail.

101-1 to 24 (1 or 2 credits per activity) Aquatics. Swimming suits and towels are provided, however, students may wish to provide their own swimsuit, towel, and cap (optional). (a) Beginning swimming. (b) Intermediate swimming. Prerequisite: 101a or equivalent. (c) Diving. Prerequisite: 101b or equivalent. (d) Skin diving. Prerequisite: consent of instructor. Course charge. (e) Scuba diving. Prerequisite: consent of instructor. Course charge, special sections have a charge for field trips. (f) Lifesaving. Prerequisite: pass swim test first day of class, 500 yards, tread water. (g) Canoeing. Prerequisite: pass swim test first day of class, tread water 15 minutes while clothed. (h) Synchronized swimming. Prerequisite: 101b or equivalent. (i) Aquacises. Prerequisite: 101b or equivalent. (j) Water sports. (k) Kayaking. Prerequisite: pass swim test first day of class, tread water 15 minutes while clothed, course charge. (l) Sailing. Prerequisite: pass swim test first day of class, tread water 15 minutes while clothed, own transportation required. Elective Pass/Fail.

102-1 to 10 (1 or 2 credits per activity) Fitness. (a) Physical Fitness. (b) Relaxation. (c) Weight Control. (d) Weight Training. (e) Yoga. Elective Pass/Fail.

103-1 to 16 (1 to 2 credits per activity) Dance. (a) Square. Course charge. (b) Folk. (c) Traditional social. (d) Introduction to modern dance. Leotards and tights without feet are required. (f) Ballet. Women are required to wear leotards, pink tights, and pink ballet slippers; men are required to wear leotards, tights, and black or white ballet slippers. (g) Tap. (h) Current social. Elective Pass/Fail.

104-1 to 34 (1 to 2 credits per activity) **Individual and Dual Activities.** (a) Archery. Eight arrows required. (b) Badminton. Three shuttlecocks required. (c) Bowling. Lane fee and bowling shoes required; shoe rental available. (d) Cross country. (e) Cycling. Cycle required. (f) Fencing. Glove required. (g) Fly and bait casting. Rod and reel required. (h) Golf. Five hard covered practice balls required. (i) Gymnastics apparatus. (j) Handball. Glove and ball required. (k) Horseback riding. Course charge, own transportation required. (l) Orienteering. Own transportation required. (m) Racquetball. Racquet and one can of balls required. (n) Tennis. Racquet and one can of new balls required. (o) Track and field. (p) Stunts and tumbling. (q) Wrestling. Elective Pass/Fail.

105-1 to 12 (1 or 2 credits per activity) **Team Activities.** All classes are coeducational. (a) Basketball. (b) Flag football. (c) Floor hockey. (d) Soccer. (e) Softball. Glove required for 12" softball. (f) Volleyball. Elective Pass/Fail.

106-1 to 6 (1 or 2 credits per activity) **Martial Arts.** (a) Self Defense. (b) Judo. Judo uniform required. (c) Karate. Karate uniform required. Elective Pass/Fail.

114-1 to 4 (1 or 2 credits per activity) **Intermediate Individual and Dual Activities.** (c) Bowling. Prerequisite: 104c or equivalent. Lane fee and bowling shoes required; shoe rental available. (f) Fencing. Prerequisite: 104f or equivalent. Glove required. (n) Tennis. Prerequisite: 104n or equivalent. Racquet and one can of new balls required. Elective Pass/Fail.

201-2 **Healthful Living.** Personal and community health. Designed to meet general health education needs and to develop wholesome health attitudes and practices in college students. Elective Pass/Fail.

236-2 **Nutritional Ecology of Man.** Interaction between people and their environment. Emphasis on nutritional implications of our social, biological, and physical surroundings. Purchase of supplies ranging from \$4 to \$5. Elective Pass/Fail.

240-2 **Human Relations Between the Sexes.** Explores concepts and issues including development of sexuality, selection of a life partner, premarital sex experience, modern morality and the development of sexual mores, marriage, family planning, reproduction, varieties of sexual expression, and sex education. Elective Pass/Fail.

*Physical education equipment for men includes the following items: T-shirt, shorts, supporter, socks, gym shoes, lock, towel.

Accountancy (Department)

Accounting is the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information. Such information is required and used by parties, both internal and external to a business; as well as by all forms of not-for-profit organizations.

The curriculum is designed to prepare a student with basic conceptual accounting and business knowledge necessary to develop a foundation for accounting career development. The curriculum also permits the student to elect courses to prepare for a particular area of interest within accounting.

Various laws prescribe the requirements for certification as a public accountant, a management accountant, and an internal auditor. In general, the accounting curriculum prepares the student educationally to meet these various requirements.

Accounting majors must achieve a 2.00 grade point average in accounting prefix courses taken at Southern Illinois University at Carbondale, as well as meet the College of Business and Administration's graduation requirement of 2.00 grade point average in business-prefix courses taken at Southern Illinois University at Carbondale. In addition they must also achieve a grade of C or better in accounting - prerequisite courses taken at Southern Illinois University at Carbondale and offered to satisfy the requirements of the professional business core and the major in accounting.

Accounting (Major, Courses)

Bachelor of Science Degree, College of Business and Administration

General Studies Requirements.	45-46
Professional Business Core (see page 61)	47-48

<i>Requirements for Major in Accounting</i>	24
Accounting 321 and 322 (financial)	6
Accounting 331 (managerial)	3
Accounting 341 (tax)	3
Accounting 351 (systems)	3
Accounting 361 (auditing)	3
Accounting 400-level electives. At least 3 hours must be from courses numbered 420 through 469	6
<i>Electives</i>	3
<i>Total</i>	120

Courses

210-3 Accounting Principles and Control. Prevalent accounting principles and practices employed in business organizations. Accumulation of data and usefulness of reports are considered. Tax implications of business studied. Not open to students with a major in the College of Business and Administration. No credit given for 210 if credit is claimed for 220. Elective Pass/Fail.

220-3 Accounting I. Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset liability and owners' equity valuation and their relationship to income determination. No credit given for 220 if credit is claimed for 210. Prerequisite: sophomore standing.

230-3 Accounting II. A continuation of Accounting I with emphasis on the analysis and interpretation of accounting reports including ratios and funds flow analysis. The use of accounting information for managerial planning, control, and decision making through budgeting, cost and variance analyses, and responsibility accounting. Prerequisite: 220.

240-3 Individual Income Tax. Preparation of income tax returns. Federal income tax as applied to individuals. No credit given for 240 if credit is claimed for 341. Not open to those with a major in accounting. Elective Pass/Fail.

321-3 Intermediate Accounting I. Current accounting principles and procedures relating to elements of financial reporting. Particular emphasis on current and fixed asset valuation. Prerequisite: a grade of C or better in both 220 and 230 or equivalent; junior standing or consent of department.

322-3 Intermediate Accounting II. Continuation of the study of accounting principles and procedures with emphasis on liabilities, corporate capital, and income determination. Preparation and use of special statements; analysis and interpretation of statements. Prerequisite: 321 with grade of C or better.

331-3 Cost Accounting. Interpretation and managerial implications of material, labor, and overhead for job order, process and standard cost systems, cost-volume-profit relationships, direct costing, and budgeting. Accounting for complex process production flows, joint and by-products, spoilage, and scrap. Responsibility accounting and reporting. Prerequisite: 230 with grade of C or better or consent of department.

341-3 Introduction to Taxation. Background, principles, and procedures for the determination of taxable income as a basis for federal income tax. Particular attention is given those aspects which are at variance with usual accounting treatment in the determination of net income. Includes practice in the methodology of tax solutions. No credit given for 341 if credit is claimed for 240. Prerequisite: a grade of C or better in both 220, 230, or equivalent courses; junior standing or consent of department.

351-3 Accounting Information Systems. Accounting systems design and installation. The study of accounting information systems, including computer-oriented systems, with emphasis on the information and control functions of the management decision-making process. Prerequisite: a grade of C or better in both 322 and 331; Computer Science 212 or equivalent.

361-3 Auditing. Standards, objectives, and procedures involved in examining and reporting on financial statements of business organizations. Prerequisite: a grade of C or better in 322.

421-3 Advanced Accounting. Accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, fiduciaries, international operations, branches, and business combinations. Prerequisite: 322 with grade of C or better.

422-3 Current Developments in Accounting Theory. Critical analysis of current developments in accounting theory, especially as reflected in the publications of major accounting associations. Prerequisite: 322 with grade of C or better.

431-3 Advanced Cost Accounting. Managerial decision making; profit planning and control through relevant costing, return on investment and transfer pricing, determination of cost behavior patterns, analysis of variances, capital budgeting, inventory models, probabilities, statistical methods, and operations research. Prerequisite: 322, 331 with grade of C or better.

441-3 Advanced Tax. Study of income tax problems which arise from sole proprietorship,

partnership, corporation, estate, and trust of organization. Brief study of social security, federal and state estate tax and gift tax. Student does research in source materials in arriving at solutions of complicated problems. Prerequisite: 341 with grade of C or better.

451-3 Advanced Accounting Information Systems. A review of current systems design and operation methodologies with special attention to the advantages and disadvantages these provide to an integrated information system. Prerequisite: 351 with grade of C or better.

461-3 Advanced Auditing. The study and application of selected auditing concepts and techniques. Hands-on application will be emphasized. Prerequisite: 361 with grade of C or better.

471-3 Accounting for Public Organizations. Financial and managerial accounting concepts peculiar to the planning and administration of public and quasi-public organizations, such as governmental units, institutions, and charitable organizations. Includes the conventional budgetary-appropriation process, as well as some of the more recent accounting developments related to public decision making. Prerequisite: 230 with grade of C or better.

491-1 to 6 Independent Study in Accountancy. Independent study of specialized aspects of accountancy not available through regularly scheduled courses. Prerequisite: a grade of C or better in each of 322, 331, 341, and consent of department.

492-3 Professional Dimensions of Accountancy. This course is designed to aid the accounting student in identifying and understanding the necessary requirements for attainment of professional status within the accounting field. CPA, CMA, and CIA certification will be covered. In addition, this course will explore the complex set of ethical standards, responsibilities, and legalities intrinsic in both obtaining and maintaining status as a professional. Prerequisite: 322, 331, 341, and 361 with a grade of C or better.

495-1 to 6 Internship. Supervised work experience in professional accounting. Not for graduate credit. Prerequisite: outstanding record in accounting and recommendation of the departmental committee on internship.

521-3 Financial Accounting Concepts.

522-3 Financial Accounting Theory.

529-3 Seminar in Financial Accounting.

531-3 Managerial Accounting and Control Concepts.

532-3 Controllorship.

541-3 Tax Concepts.

542-3 Tax Research and Procedure.

543-3 Corporate Taxation.

544-3 Partnership Taxation.

545-3 Estate Planning.

546-3 Seminar: Selected Tax Topics.

551-3 Accounting Information Systems Concepts.

552-3 Accounting Information Systems II.

561-3 Auditing Concepts.

562-3 Advanced Auditing Topics.

571-3 Not-For-Profit Accounting.

590-3 Seminar in Accounting.

591-1 to 6 Independent Study.

599-3 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Administration of Justice (Major, Courses)

The Bachelor of Science degree with a major in administration of justice meets the career objectives of students interested in law enforcement, corrections, juvenile services, and other roles in social and criminal justice.

Four areas of specialization — law enforcement, correctional program services, correctional management, and juvenile justice and delinquency prevention — have been delineated to give a range of choices suitable for most students preparing for careers in a field of criminal justice. The policy, however, is to fit course requirements to the student's career objectives if none of these specializations are appropriate. In such situations, the student will be required to take the core courses and, under the supervision of the adviser, develop an appropriate battery of courses in lieu of one of the four areas of specialization.

Qualified students may be admitted to the Capstone Program with a major in Administration of Justice. The Capstone Program is explained in Chapter 3.

Field internship placement is an important element in the program and internships are encouraged for qualified students.

Bachelor of Science Degree, College of Human Resources

ADMINISTRATION OF JUSTICE MAJOR — LAW ENFORCEMENT SPECIALIZATION

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Administration of Justice</i>	42
Core Requirements: 201, 290, 305, 316, 399	16
Law Enforcement Specialization Requirements: 15 hours selected from 301, 302, 303, 403b, 407b	15
Law Enforcement Specialization Electives: 11 hours selected from 202, 403a, 403c, 407a, 415, 492	11
<i>Minor</i>	18
<i>Electives</i>	15
Administration of Justice 390, 395, 490 recommended.	
<i>Total</i>	120

ADMINISTRATION OF JUSTICE MAJOR — JUVENILE JUSTICE AND DELINQUENCY PREVENTION SPECIALIZATION

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Administration of Justice</i>	36
Core Requirements: 201, 290, 305, 316, 399	16
Juvenile Justice and Delinquency Prevention Specialization Requirements: 15 hours selected from 300, 301, 344, 348, 471, 473, 485a, 485b	15
Juvenile Justice and Delinquency Prevention Specialization Electives: 5 hours selected from 390, 395, 407a, 415, 470, 472, 490, 492	5
<i>Minor</i>	18
<i>Electives</i>	21
<i>Total</i>	120

ADMINISTRATION OF JUSTICE — CORRECTIONAL PROGRAM SERVICES SPECIALIZATION

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Administration of Justice</i>	36
Core Requirements: 201, 290, 305, 316, 399	16
Correctional Program Services Specialization Requirements: 15 hours selected from 300, 301, 344, 348, 471, 473, 485a, 485b	15
Correctional Program Services Specialization Electives: 5 hours selected from 390, 395, 407b, 472, 490, 492	5
<i>Minor</i>	18
<i>Electives</i>	21
<i>Total</i>	120

ADMINISTRATION OF JUSTICE MAJOR — CORRECTIONAL MANAGEMENT SPECIALIZATION

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Administration of Justice</i>	36
Core Requirements: 201, 290, 305, 316, 399	16

Correctional Management Specialization Requirements:	
15 hours selected from 407b, 471, 472, 485a, 485b	15
Correctional Management Specialization Electives:	
5 hours selected from 390, 395, 407c, 470, 490, 492	5
<i>Minor</i>	18
<i>Electives</i>	21
<hr/>	
<i>Total</i>	120
Not more than three hours of 395 may be counted toward the major.	

Minor

A minor in administration of justice consists of 201 and 290 plus any combination of administration of justice courses to reach a total of 18 semester hours.

Courses

- 201-3 Introduction to Criminal Justice System.** Survey of the agencies and processes involved in the administration of criminal justice: The history of English law; the criminal justice process and system, including underlying ideologies, procedures, fundamental legal concepts, and the roles and functions of police, courts, and correctional services.
- 202-3 Law Enforcement Services.** An overview of the services provided by law enforcement agencies. Emphasis will be placed on the nature, scope, and functions of various agency work units in their provision of services to prevent crime, detect and apprehend offenders, provide regulatory services, and specialized community centered services.
- 290-3 Introduction to Criminal Behavior.** Multidisciplinary study of etiology and patterning of offender behavior.
- 300-3 Assessment of Offenders.** Introduction to the procedures and issues of identifying and evaluating individual differences in offenders and among classes of offenders; analysis of typical diagnostic methods. Prerequisite: 201 and 290 or consent of instructor.
- 301-3 Human Relations in Criminal Justice.** Delineation of major interactive patterns among staff members, between staff and clients, and among clients of probation and parole agencies and correctional agencies; introduction to problems of communication, bureaucracy, and leadership. Prerequisite: 201 and 290 or consent of instructor.
- 302-3 Introduction to Enforcement Administration** An introduction to the principles of administration and organization of enforcement agencies, including policy, security, conservation, and investigation. Prerequisite: 201.
- 303-3 Behavioral Aspects of Investigation.** Principles of behavioral science are applied to the recurrent patterns of criminal investigation as a social and fact-finding process; survey of criminalistics. Prerequisite: 302.
- 305-3 Criminal Law — Introduction to Procedural Aspects and Police Powers.** An introduction to the procedural aspects of criminal law pertaining to police powers in connection with the laws of arrest, search and seizure, the exclusionary rule, civil liberties, eavesdropping, confessions, and related decision-making factors. Prerequisite: 201 and 290 or consent of instructor.
- 310-3 Introduction to Criminal Law.** The nature and theories of law and social control; legal reasoning and case analysis; simple legal research; statutory construction; principles and history of punishment; consitutional, historical, and general legal principles applicable to the criminal law.
- 316-4 Introduction to Criminal Justice Research.** A basic introduction to the scientific perspective, relationship of research and theory, research design, data collection, data analysis, reporting of research and program evaluation. Emphasis on problems peculiar to criminological research. Prerequisite: 201, 290 or consent of instructor.
- 344-2 Drug Use.** Types of drugs, drug impact on the American culture, legal and illegal uses of drugs, offenses related to drug use, reaction of the criminal justice system to drugs and drug users, and the treatment and prevention programs coping with drug use. Prerequisite: 201 and 290 or consent of instructor.
- 348-3 Treatment Modalities.** Various treatment methods used throughout the criminal justice system. Explanation and evaluation of various treatment techniques; e.g., behavior modification, transactional analysis and other individual and group therapies. Prerequisite: 201 and 290 or consent of instructor.
- 390-1 to 4 Readings in the Administration of Justice.** In-depth, introductory and advanced readings in areas not covered in other Administration of Justice courses. The student must submit a statement describing the topic and relevant reading materials to the faculty member sponsoring the student's readings. Prerequisite: 201 and 290 and consent of faculty sponsor.
- 395-3 to 15 Supervised Field Experiences in the Administration of Justice.** Familiarization and direct experience in applied settings. Under supervision of faculty and adjunct staff, the student assumes a student-participant role in the criminal justice agency. Student must

submit internship application during the first thirty days of the preceding spring or fall semester. Prerequisite: 201, 290, 12 hours of Administration of Justice courses and consent of department. Mandatory Pass/Fail.

399-3 Senior Seminar. An evaluation of agency policy and practices observed during the student's field experiences, and synthesis with classroom experiences. Emphasis will also be given to planning a professional career. Prerequisite: 395 or consent of instructor.

402-3 Group and Family Treatment in Criminal Justice. Presentation of theoretical knowledge and practical techniques utilized in major group and family treatment approaches for adults and juveniles in institutions, community-based correctional programs, and transitional living situations.

403-3 to 9 (3 per topic) Enforcement Operations. (a) Advanced investigation; (b) Enforcement management; (c) Enforcement discretion. This course offering provides a broad coverage of law enforcement activities from detailed investigative work through specialized management techniques required. Some sections of the course may be offered only every other year. Prerequisite: (a) 303 or graduate status; (b) 202 or graduate status or consent of instructor.

407-3 to 9 (3 per topic) Selected Topics in Criminal Law. (a) Substantive legal aspects; (b) Case preparation and prosecution; (c) Jurisprudence and procedures. Provides the framework for the understanding of basic substantive law and jurisprudence. Prerequisite: (a) 305 or graduate status; (b) 305, 407a, or graduate status.

415-3 Prevention of Crime and Delinquency. Multidisciplinary analysis of the functions, goals, and effectiveness of measures to forestall delinquency and crime. Etiology of delinquent behaviors as related to community institutions such as police, courts, corrections, mental health clinics, schools, churches, and citizen groups. Prerequisite: 201 and 290 or consent of instructor.

416-3 Methods of Criminal Justice Research. The principles of scientific inquiry as applied to the study of the criminal justice system. Overview and examples of project design, evaluative research, methodology and statistical techniques appropriate to criminal justice research. Strongly recommended for students who plan to conduct empirical research in fulfillment of master's thesis requirement. Prerequisite: 201 and 290 or consent of instructor.

417-3 Research Practicum in the Administration of Justice. Application of the principles set forth in 416. Experience in the various phases of an actual research project, including project design, data collection and analysis, and effective communication of results via written reports. Prerequisite: 201 and 290 and 416 or consent of instructor.

460-3 Women and the Criminal Justice System. Addresses the topics of women as offenders, as victims and as workers in the criminal justice system. Prerequisite: 201 and 290 or consent of instructor.

470-3 Critical Theory of Criminal Justice. Selected key ideas of law enforcement, courts and corrections, collectively and severally, are established as the foundation for a frank evaluation of the merits of contemporary policies and practices. Prerequisite: 201 and 290 or consent of instructor.

471-3 Principles of Management in the Administration of Justice. Basic principles and techniques of management in law enforcement, correctional, and other criminal justice agencies. Prerequisite: 201 and 290 or consent of instructor.

472-3 The American Correctional System. (Same as Sociology 472.) A survey of the correctional field, covering probation, institutional treatment, and parole. Historical development, organizational structure, program content, and current problems. Prerequisite: 201 and 290 or consent of instructor.

473-4 Juvenile Delinquency. (See Sociology 473.) Prerequisite: 201 and 290 or consent of instructor.

485-3 to 6 (3 per topic) Selected Topics in Correctional Program Services. (a) Correctional case management. Prepares students to become practitioners, supervisors, and administrators in probation, parole, correctional institutions, and community-based programs in roles traditionally assigned to probation and parole officers, correctional counselors, social workers, and similar titles. Recognizes the importance of the case manager as a planner, mobilizer of resources, advocate, and community organizer. (b) Corrections and the community. Traditional correctional functions are redefined to emphasize development of resources of community at large, diversion of convicted offenders from institutions and direct involvement of correctional programs in community affairs. Prerequisite: three administration of justice courses or consent of instructor.

490-1 to 3 Independent Study in the Administration of Justice. Supervised readings or independent investigative projects in the various aspects of crime control, treatment of offenders; and management of programs of law enforcement, courts, and correctional agencies. May be repeated up to a maximum of three credit hours. Prerequisite: 201 and 290 or consent of instructor.

492-2 to 6 (2 to 3 per semester) Contemporary Issues in Administration of Justice. A forum for focusing on special interest topics depending on the availability of staff, visiting professors, and other selected instructional resources to cover a contemporary issue of concern to students and the faculty. May re-enroll for a maximum of six credits. Prerequisite: 201 and 290 or consent of instructor.

- 500-3 History and Philosophy of Criminal Justice System.
- 504-3 Criminological Theory.
- 516-3 to 6 (3 per topic) Seminar in Advanced Criminal Justice Research.
- 562-3 Fundamental Legal Systems in Criminal Justice.
- 571-3 Correctional Systems in Criminal Justice.
- 572-4 Seminar in Criminology.
- 578-1 to 4 Seminar in Correctional Rehabilitation Counseling.
- 580-3 Planning for Change in the Administration of Justice.
- 582-3 Criminal Law and the Correctional Process.
- 584-3 Seminar in Criminological Program Management.
- 587-3 Seminar in Law Enforcement.
- 588-3 to 9 (3 per topic) Selected Topics in Law Enforcement.
- 590-1 to 3 Supervised Readings in Selected Subjects.
- 591-3 to 6 Individual Research.
- 592-3 Advanced Seminar in Administration of Justice.
- 595A-3 or 6 Supervised Field Work (Internship).
- 595B-3 or 6 Supervised Field Work (Internship).
- 599-3 to 6 Thesis.
- 601-1 to 12 per semester Continuing Research.

Administrative Sciences (Department, Major, Courses)

The Department of Administrative Sciences is concerned with decision making in the allocation of resources toward the achievement of an organization’s objectives. The setting of the organization may be government, business, health, or education, but of greater concern is the administrative process itself regardless of where it takes place.

Students are provided with a curriculum drawing on a variety of disciplines each of which contributes certain conceptual tools and techniques useful in improving the decision making performance of the administrator. Beyond the fundamental departmental requirements and those of the College of Business and Administration, a choice of two specialty programs is available.

Management. Administrators make and implement decisions through and with people working together toward the achievement of common societal, organizational, and personal goals. Understanding the organizational and environmental factors that influence individuals and groups, particularly in work settings, is critical to the success of managers and other employees. By carefully selecting courses, students can satisfy the general requirements of an administrative sciences major, and orient their programs of study toward career tracks in general management or personnel management. In each case, opportunities exist to pursue interests in administrative applications to a wider variety of organizational settings including government, health, and education, as well as small and large business.

Decision Sciences. The decision sciences rely upon analytical problem-solving approaches to establish resource allocation policies and decisions that will enhance the organization’s effectiveness and efficiency. This specialization includes areas of production-operations management, management information systems, and quantitative analysis. By choosing appropriate electives, students can concentrate their preparation in one or more of these areas. Students with a decision science specialization are prepared to enter a wide variety of private or public organizations in either direct management or staff positions.

Bachelor of Science Degree, College of Business and Administration

- General Studies Requirements.* 45-46
- Administrative Sciences 202 must be selected as an approved substitute for GSD 118.

<i>Professional Business Core (see page 61)</i>	47-48
<i>Requirements for Major in Administrative Sciences</i>	25
Administrative Sciences 202, 341, 361, 352	(2)+ 10
Specializations (Choose one)	

Management.

Administrative Sciences 385 or 485 and 431 or 474	6
Choose at least 9 hours from the following (at least 3 hours must be selected from Administrative Sciences courses): Administrative Sciences 345, 350, 385, 431, 456, 474, 479, 485, 489a, Accounting 331, 351, 471, Economics 310, 333, 340, 341, 375, 429, 436, 442, 479, 481, English 291, Finance 421, 475, 476, 480, Geography 306, Geology 478, Industrial Technology 382, 465, 466, Marketing 439, 452, Philosophy 342, 415, Political Science 324, 441, Psychology 307, 309, 322, 323, 421, 461, Sociology 332, 426, 475, Speech Communication 280, 326, 362, 480. Political Science 442, Psychology 320 may also be selected but only if Administrative Sciences 385 is not taken for credit	9

Decision Sciences.

Administrative Sciences 345 and 453 or 456 or 483	6
Choose at least 9 hours from the following (at least 3 hours must be selected from administrative sciences courses): Administrative Sciences 385, 453, 456, 483, 489b; Accounting 331; Marketing 452; Computer Science 204, 312; Industrial Technology 365, 382, 465	9

<i>Electives</i>	1-3
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<i>Total</i>	120
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Courses

170-3 Introduction to Business Administration. Survey of business. General knowledge of the modern business world, the composition and functions of the business organization, as well as business as a social institution. Open only to freshmen and sophomores. Does not satisfy a College of Business and Administration requirement. Elective Pass/Fail.

202-3 Administrative Communications. Creating and managing interpersonal administrative communications including the analysis, planning, and practice of composing different types of internal and external communications in various administrative and business contexts.

208-4 Interpretation of Business Data. Uses of business data in policy formulation are discussed. Emphasis is placed on the conversion of raw information into statistics which are useful to the decision maker. Problems stress solution to questions typically raised in businesses. Prerequisite: Mathematics 116 or 139 or equivalent. Elective Pass/Fail.

300-3 Internship in Administrative Sciences. Supervised work experience that relates to the student's academic program and career objectives. Not repeatable for credit. Prerequisite: junior standing and consent of department. Mandatory Pass/Fail.

301-3 Management and Supervision. Functions of management and the requisites for effective supervision are emphasized by way of application to practical situations. For non-business majors who expect to assume supervisory responsibility where successful allocation and evaluation of human resources is necessary. Not open to students enrolled in the College of Business and Administration. Credit not available for both 301 and 304. Prerequisite: GSB 202, junior standing or consent of department. Elective Pass/Fail.

304-3 Organization Administration. Basic concepts of the administrative process are considered with emphasis on executive action to develop policy, direction, and control based on traditional and behavioral science approaches to decision making. Prerequisite: GSB 202 or concurrent enrollment or equivalent and junior standing or consent of department. Elective Pass/Fail.

318-3 Production-Operations Management. An introduction to the design, operation, and control of systems or processes by which materials, labor, and capital are combined in an organized way with the objective of producing goods or services. Topical coverage includes the

systems concept, planning, forecasting, job design, location, layout, logistics, scheduling, and production, inventory, quality, labor, and cost control. Prerequisite: 208, Mathematics 117 or 140, Computer Science 212 or Electronic Data Processing 217 or equivalent, junior standing or consent of department. Elective Pass/Fail.

341-3 Organizational Behavior I. The study of human problems in administration including the analyses of individual, group, and inter-group relations under a broad range of organizational settings. Theory and case analyses. Prerequisite: 208, and 304 and junior standing or consent of department. Elective Pass/Fail.

345-3 Introduction to Management Systems. Integrates topics of management and organization, information, computers, and the systems approach. Emphasizes planning, design, and implementation of information systems to aid management decision making. Application of computer techniques to develop, manipulate, and analyze system models. Prerequisite: 318, Computer Science 212 or Electronic Data Processing 217 or equivalent, and junior standing or consent of department. Elective Pass/Fail.

350-3 Managing the Small Business. Identification of small business, its importance and relationship to the United States economy and the opportunities and requirements unique to operation and management. Personal characteristics, interpersonal relationships, organizational systems, and decision-making processes are examined for their contribution to the success or failure of the firm. Prerequisite: 304 or consent of department. Elective Pass/Fail.

352-3 Management Science I. An introduction to mathematical model building in organizations and the solution techniques commonly used to solve such models. Topical coverage includes decision theory, mathematical programming, inventory models, queueing models and simulation. Prerequisite: 208, Mathematics 117 or 140 or equivalent and Computer Science 212 or equivalent, junior standing or consent of department.

361-3 Research Methods in Administration. Design of research to assist managerial decision making. Concepts, tools, sources, and methods of research. Planning, collecting, organizing, evaluating, and presenting research data. Prerequisite: 304, 208, GSD 101 and junior standing or consent of department. Elective Pass/Fail.

385-3 Personnel Management. An introduction to the development, application, and evaluation of policies, procedures, and programs for the recruitment, selection, development, and utilization of human resources in an organization. Prerequisite: 304 or equivalent, introductory statistics, and junior standing or consent of department. Elective Pass/Fail.

402-1 Strategies for Seeking Employment. The job placement process and the work environment from the viewpoint of the applicant. Emphasis on career planning, manpower analysis, placement and interviewing techniques with a stress on the transition from the academic community to the business and professional environment. Not offered for graduate credit. Prerequisite: senior standing or consent of department. Mandatory Pass/Fail.

431-3 Organizational Behavior II. The study of modern theories of complex organizations. Particular emphasis is placed on open-systems perspectives of administrative theory and the adaption of the organization to a changing environment. Prerequisite: 341 and junior standing or consent of department. Elective Pass/Fail.

453-3 Management Science II. A continuation of 352. Mathematical model building in organizations and solution techniques commonly used to solve such models. An extension of topics in deterministic and probabilistic modeling introduced in 352. Prerequisite: 352, junior standing or consent of department.

456-3 Management Systems Applications. Investigation of selected systems and computer based methods for aiding management decision-making. Topics include systems analysis applications, simulation, and decision models. Prerequisite: 345, 352 or 452 and junior standing or consent of department. Elective Pass/Fail.

474-3 Management Responsibility in Society. Analysis of the cultural, social, political, economic, and immediate environment of the organization. Particular emphasis is given to the manner in which the manager adapts to and is influenced by the environment and its conflicting demands. Prerequisite: senior standing or consent of department. Elective Pass/Fail.

479-3 Problems in Business and Economics. (Same as Economics 479.) Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 208 or Economics 308, Economics 215, Marketing 304, and junior standing or consent of department. Elective Pass/Fail.

481-3 Administrative Policy. Development of organizational strategies and policies within environmental and resource limitations. Emphasis upon the application and integration of basic principles from all areas of business by case problem analysis, simulation exercises, and group participation. Not for graduate credit. Prerequisite: senior standing, 304, 318, Finance 320, Marketing 304, or equivalent. Elective Pass/Fail.

483-3 Production Planning, Scheduling, and Control. In-depth study of analytical planning, scheduling, and control theory and techniques in the context of production/operations systems. Case exercises will be utilized to illustrate production management problems and methods. Prerequisite: 318, 352, junior standing or consent of department. Elective Pass/Fail.

485-3 Organizational Development. Analysis of problems in personnel management with

emphasis on current trends and techniques. Case problems, special reports, and experiential approaches are used as a basis for examining ways of using an organization's human resources to best advantage. Prerequisite: 341, junior standing or consent of department. Elective Pass/Fail.

489-6 (3, 3) Seminar in Administrative Sciences. Investigation of selected special or advanced topics in seminar format. Topics may include, but are not limited to: management responsibility in society, wage and salary administration, health services administration, data processing management, current issues in management, etc. (a) Management, (b) Decision Sciences. May be taken singly. Prerequisite: consent of department chairperson and instructor. Elective Pass/Fail.

491-1 to 6 Special Topics in Administration. Utilizes special faculty resources to enable individually, the exploration of an advanced area of study through research by means of data analysis and/or literature search. Prerequisite: consent of department chairperson and instructor.

Aerospace Studies (Department, Courses)

Aerospace Studies is a voluntary course sequence leading to a commission as an officer in the United States Air Force. When commissioned, all officers must have at least a baccalaureate degree; hence completion of the program is contingent upon maintaining satisfactory progress toward graduation. Enrollment in the first two years (general military course) is unrestricted and no military obligation is incurred. Special students who do not intend to obtain a commission are welcome.

Acceptance into the last two years (professional officer course — POC level) is competitive and requires qualification on the Air Force Officer Qualifying Test and a physical examination. For some officer candidates, the field of concentration must be related to an officer career specialty in the air force. Students in the professional officer course do incur a military obligation. They are paid a monthly tax-free subsistence allowance. Graduate students who have two years remaining at the University, not counting summers, are eligible.

Qualified students may enter directly at the POC level without completing the general military course by attending a six-week field training course during the summer prior to entrance. Four-year students attend a four-week field training course. Field training is conducted at air force bases and students are paid while attending.

Students are required to complete one three-hour course in mathematical reasoning as part of the program.

Courses

101-2 United States Air Force. Evolution of modern aerospace power and concepts on which it was developed. Introduction to aerospace support forces. Includes airlift, research and development, logistics, and education and training. One lecture and two one-hour laboratories per week.

102-2 Aerospace Offensive and Defensive Forces. Introduction to U.S. general purpose and strategic offense forces, and the constraints involved in the use of modern weapons. Introduction to concepts, organization, equipment, and procedures involved in strategic defense of the United States. One lecture and two one-hour laboratories per week.

201-2 The Development of Air Power I. History of manned flight from pre-aircraft to end of World War II. Develops the themes of doctrine, technology and evolution of aircraft, and U.S. Air Force. One lecture and two one-hour laboratories per week.

202-2 The Development of Air Power II. History of United States Air Force from separate military department status into early 1970's. Highlights the versatility of air power and the changing role of machines, people, and tactics in air warfare. One lecture and two one-hour laboratories per week.

258-4 GMC Equivalency. Work experience credit for 101, 102, 201, and 202. This credit will be evaluated by the head of the Aerospace Studies Department. Prerequisite: satisfactory completion of the academic phase of the six-week field training course for AFROTC two-year applicants.

301-4 Management and Leadership I. Student relates current management and leadership theory to problems faced by middle managers in a large bureaucracy, the United States Air Force. Examines individual motivation, organization dynamics, performance appraisal, and

decision making. Practices writing and speaking styles appropriate to a large organization. Three one-hour lectures and two one-hour laboratories per week. Prerequisite: satisfactory completion of the GMC, six weeks field training, or consent of instructor. Non AFROTC members may enroll with instructor consent and may elect Pass/Fail.

302-4 Management and Leadership II. Continuation of 301. Students examine traditional and modern theories of leadership to define their own roles as leaders. Examine value conflict and conflict resolution for the middle manager. Three one-hour lectures and two one-hour laboratories per week. Prerequisite: 301 or consent of instructor. Non AFROTC members may enroll with instructor consent and may elect Pass/Fail.

401-4 Formulation of Defense Policy. Student explores the dynamics of formulating and implementing American defense policy. Examines international political trends, fundamental causes of inter-state conflict, and domestic and international constraints which restrict the options available to American defense policy makers. Three one-hour lectures and two one-hour laboratories per week. Prerequisite: 302 or consent of instructor. Non AFROTC members may enroll with instructor consent and may elect Pass/Fail. Not for graduate credit.

402-4 Civil-Military Relations. Student analyzes crucial questions about the role and functions of the military officer. Study military law and the law of armed conflict as they apply to the junior officer. Examines contemporary issues including social values and attitudes toward the military. Three one-hour lectures and two one-hour laboratories per week. Prerequisite: 401 or consent of instructor. Non AFROTC members may enroll with instructor consent and may elect Pass/Fail. Not for graduate credit.

African Studies (Minor)

African area studies is available through an interdisciplinary minor, involving courses in anthropology, Black American studies, geography, history, linguistics, political science, and religious studies. Each of these departments has one or more faculty who specialize in Africa and who are interested in assisting students wanting to study about Africa. The requirements for the African studies minor are listed below.

Minor

The African studies minor consists of 15 hours with 9 hours in required core courses and 6 hours of electives.

Required Core Courses: 9 hours selected from Anthropology 470a, Black American Studies 225, 314a, b, History 387a, b, Political Science 465.

Electives: 6 hours selected from any courses not used as part of the core or Anthropology 420-3 (only when an African language is studied), Geography 365, Linguistics 450-3 (only when African languages are studied), Religious Studies 333, or 2-3 hours of reading courses on Africa sponsored by any of the departments listed above or below.

Suggested related courses which do not count toward the minor are: Agribusiness Economics 442, 443, Anthropology 410h, 470f, Black American Studies 311a, b, Economics 322, History 362a, b, or Political Science 452.

Agribusiness Economics (Department, Major, Courses)

Instruction, research and consultation are provided in farm management, agribusiness management, agricultural credit, agricultural prices, agricultural marketing, cooperatives and agricultural policy.

This curriculum also permits the student to select additional courses in agricultural production and/or related fields of economics, business, political science, etc.

There is a 40-hour option and a 32-hour option. The 40-hour option provides a broader training in agriculture. The 32-hour option provides additional work in business and economics.

For a number of courses taught in the department, there will be an additional charge for field trips, laboratory manuals or supplies.

Bachelor of Science Degree, School of Agriculture

	OPTIONS	
	40 HOURS	32 HOURS
<i>General Studies Requirements</i>	46	46
GSA 106 and 115 or equivalent	6	6
GSD 101, 107 ¹ , 118, 153	12	12
<i>Requirements for Major in Agribusiness Economics</i>	54	54
Agriculture Requirements	(40)	(32)
Agribusiness Economics 350 or 360, 351, 362, 381-1, 450 or 461	13	13
Agribusiness Economics 204	3 ²	3 ²
Other Agribusiness Economics	7	7
Animal Industries	3	3
Plant and Soil Science	3	3
Electives in Agriculture	11	3
Business and Economics Requirements	(14)	(22)
Economics 214, 215	6	6
Accounting and Quantitative Methods	8 ³	8 ³
Other business and economic courses	0	8
<i>Electives</i>	20	20
<i>Total</i>	120	120

¹Mathematics 110a, b or Mathematics 111 are highly recommended.

²Agribusiness Economics 204 substitutes for GSB 211.

³Courses in accounting, computer science and statistics or equivalent, in two fields.

Minor

A minor in agribusiness economics is offered. A minor consists of 16 semester hours of credit. Normally 12 hours must be taken at Southern Illinois University at Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Courses

204-3 Introduction to Agricultural Economics. Agriculture in local and national economy; distribution; size and organization of the farm business units; policies affecting agriculture. Elective Pass/Fail.

257-1 to 10 Work Experience. Credit for on-campus work experience through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Prerequisite: consent of chairperson. Mandatory Pass/Fail.

258-1 to 30 Past Work Experience. Credit for career related employment based on the evaluation of the documentation of this experience by the Department of Agribusiness Economics. No grade for past work experience. Prerequisite: consent of chairperson.

302-2 Country Living Management and Information. Managing a small acreage as an avocation. Types of decision problems and sources of information. Elective Pass/Fail.

340-3 Economic Analysis of Food and Rural Development Policies. An economic analysis of the structure, problems, and alternative public policies of the food production industry. The dimensions and causes of rural poverty and alternatives for rural development. Prerequisite: 204 or consent of instructor. Elective Pass/Fail.

350-3 Farm Management. Efficient organization and management of a farming operation. Emphasis on crop and livestock selection, management of farm resources, farm budgets and records analysis, and farm leases. Student will incur field trip expenses not to exceed \$5. Prerequisite: 204 or one course in economics. Elective Pass/Fail.

351-3 Financial Management in Agriculture. Analysis of the capital structure of agriculture and sources of capital. Credit analysis of agribusiness firms using financial statements, firm growth, capital budgeting, and tax considerations. Prerequisite: 204 or equivalent. Elective Pass/Fail.

359-1 to 6 Intern Program. Supervised work experience program in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

360-3 Cooperatives and Agribusiness Management. Problems and practices in agribusiness

operations including forms of organization, alternative organization and structure impacts on decision making, tools of decision making, financial analysis and methods of improving the effectiveness of the marketing system. Prerequisite: 204 or equivalent. Elective Pass/Fail.

361-2 Distribution in Agribusiness. The nature of agribusiness distribution, opportunities to improve the effectiveness of the distribution system through an understanding of the function involved. Prerequisite: 204 or equivalent. Elective Pass/Fail.

362-3 Marketing and Pricing Agricultural Products. Institutional arrangements in marketing agricultural products. Market structure, marketing costs, and alternative methods of pricing agricultural products are also examined. Prerequisite: 204 or equivalent. Elective Pass/Fail.

363-3 Commodity Futures Market. The mechanics of futures market trading, a description of institutions, technical and fundamental analysis, speculation, hedging, spreading, and market risk. Agricultural commodities, exchange rates, and financial instruments are considered. Elective Pass/Fail.

381-1 to 4 (1, 1, 1, 1) Agricultural Seminar. Discussion of special topics and/or problems in the field of agribusiness economics. Prerequisite: junior standing and consent of department.

388-1 to 16 (1 to 8 per semester) International Studies. Course work undertaken as part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

390-1 to 4 Special Studies in Agribusiness Economics. Assignments involving research and individual problems. Field trips. Prerequisite: consent of chairperson.

391-1 to 4 Honors in Agribusiness Economics. Completion of honors paper or comparable project under the supervision of one or more faculty members. Subject matter depends upon the needs and interests of the student. Prerequisite: junior, GPA 3.0 with a 3.25 in major; approval of staff member, department chairperson. Elective Pass/Fail.

401-3 Agricultural Law. Relations of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation, and other problems involving agriculture. Prerequisite: junior standing or consent of instructor. Elective Pass/Fail.

402-1 to 6 Problems in Agribusiness Economics. Designed to improve the techniques of agribusiness economics workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. Prerequisite: consent of chairperson.

440-3 Land Resource Economics. (Same as Economics 471.) The use of land as an economic variable in producing goods and services; land markets; public versus private land use conflicts; and land-use planning in an institutional setting. Prerequisite: 12 hours of agricultural economics or economics credit, or graduate status or consent of instructor. Elective Pass/Fail.

442-2 Agricultural Development in Emerging Countries. Principles and practices in improving agriculture in areas with limited capital and low levels of technology. Prerequisite: 204 or GSB 211. Elective Pass/Fail.

443-2 Marketing Practices and Problems in Developing Countries. Types of markets, assembly of products, storage, transportation, quality determination, and pricing practices which are peculiar to the developing countries. Market organization and practices for the major export products and the principal domestic foods and fibers in such countries. Methods of progressively improving such markets. Prerequisite: 204 or equivalent. Elective Pass/Fail.

450-3 Advanced Farm Management. Application of production economic principles and modern decision-making techniques to farm management problems. The importance of information, sources of agricultural risk and management of risk in farm planning will be integrated. Prerequisite: 350 or equivalent, and GSD 107. Elective Pass/Fail.

451-2 Farm Real Estate Appraisal. Principles and practices of farm real estate appraisal. Application of capitalization, market, and cost approaches for estimating market value. Understanding of special valuation methods used for buildings, insurance, assessments, loans, and condemnation. Field trips not to exceed \$10. Prerequisite: 350 or consent of instructor. Elective Pass/Fail.

453-3 Advanced Farm Planning Techniques. Application of linear programming to farm planning including enterprise selection, resource allocation, and least cost ration formulation. Farm decision making under uncertainty and analysis of farm expansion alternatives. Prerequisite: 350 or consent of instructor. Elective Pass/Fail.

460-3 Agricultural Prices. Measurement and interpretation of factors affecting agricultural prices. Construction of index numbers, trend analysis, seasonal and cyclical price movements and the measurement of relationships between price and other variables. Prerequisite: 362 or equivalent.

461-3 Agriculture Business Management. Function of top management in agribusiness, such as: determining objectives, developing sound and consistent policies for achieving objectives; organizing the administrative personnel to carry out the plans; guiding and maintaining the administrative organization. Prerequisite: 360.

462A-1 Agricultural Marketing Problems and Practices — Livestock. Problems and their solutions in marketing livestock. Prerequisite: 362. Elective Pass/Fail.

462B-1 Agricultural Marketing Problems and Practices — Field Crops. Problems and their solutions in marketing field crops. Prerequisite: 362. Elective Pass/Fail.
 462C-1 Agricultural Marketing Problems and Practices — Dairy and Poultry. Problems and their solutions in marketing dairy and poultry products. Prerequisite: 362. Elective Pass/Fail.
 462D-1 Agricultural Marketing Problems and Practices — Horticultural Crops. Problems and their solutions in marketing horticultural crops. Field trips cost \$5. Prerequisite: 362. Elective Pass/Fail.
 500-4 (2, 2) Agribusiness Economics Research Methodology.
 551-3 Resource Allocation in the Agribusiness Firm.
 552-3 Problems and Policies of the Agricultural Sector.
 581-1 to 4 Seminar in Agribusiness Economics.
 588-1 to 8 International Graduate Studies.
 590-1 to 4 Readings.
 593-1 to 4 Individual Research.
 599-1 to 6 Thesis.
 601-1 to 12 per semester Continuing Research.

Agricultural Education (Major)

In this program a student will receive the technical and professional training needed to teach agricultural occupations in secondary schools, serve in extension, or be employed in industry. A student majoring in agricultural education may specialize in one of the following areas: agricultural production, agricultural supplies and services, agricultural mechanics, agricultural products, ornamental horticulture, agricultural resources, forestry, and other areas of agriculture in specially designed curricula.

Bachelor of Science Degree, College of Education or School of Agriculture

AGRICULTURAL EDUCATION MAJOR — SECONDARY TEACHING CERTIFICATE

<i>General Studies Requirements</i>	46-47
GSA 106, 115	6
GSB 212 or 300, and 202.....	6-7
GSD 101, 107, 118, 153	12
GSE 201 and two hours of physical education activity courses	4
<i>Requirements for Major in Agricultural Education</i>	40
Agribusiness Economics	3
Agricultural mechanization courses	3
Agricultural Education and Mechanization 311a, b and one of the following: 364, 411, 414	7
Animal Industries	3
Plant and Soil Science	3
Specialty in Agriculture and agriculture electives	21
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Electives</i>	8-9
<i>Total</i>	120

Agricultural Education and Mechanization

(Department, Major, Courses)

The Agricultural Education and Mechanization major includes two specializations: agricultural information and agricultural mechanization.

Agricultural Information Specialization. This specialization is intended for those

students who plan to be involved in agricultural education programs in extension, post-secondary educational institutions and industry. Persons desiring to be certified for public school secondary teaching should follow the Agricultural Education major.

Agricultural Mechanization Specialization. Agricultural mechanization is the application of technology to agricultural problems in the areas of power and machinery, structures and environment, electrical power and processing, and surveying for soil and water management.

Qualified candidates for the Capstone Program are accepted in the department.

For a number of courses taught in the department, there will be additional charges for field trips, laboratory manuals or supplies.

Bachelor of Science Degree, School of Agriculture

AGRICULTURAL AND MECHANIZATION MAJOR — AGRICULTURAL INFORMATION SPECIALIZATION

<i>General Studies Requirements</i>	46
GSA 115 or substitute, GSA 106 or chemistry equivalent required	
GSB 202 or 203 or 321 required	
GSD 101, 107, 153 required, 118 recommended	
<i>Requirements for Major in Agricultural Education and Mechanization</i>	40
Agribusiness Economics	6
Agricultural Education and Mechanization	
Agricultural education courses: any two of the following:	
364, 411, 414	6
Agricultural mechanization courses	6
Animal Industries	6
Plant and Soil Science	6
Electives in Agriculture	10
<i>Electives</i>	34
<i>Total</i>	120

AGRICULTURAL EDUCATION AND MECHANIZATION MAJOR — AGRICULTURAL MECHANIZATION SPECIALIZATION

<i>General Studies Requirements</i>	46
GSA 115, 106 and Physics 203 a,b.	12
GSD 101, 118 recommended, 107 or trigonometry, 153.	12
<i>Requirements for Major in Agricultural Education and Mechanization</i>	48
Agricultural Education and Mechanization courses selected from	
171, 172, 173, 174, 371, 372, 373, 374, 384, 472, 473,	
474, and 483 and totaling	18
Specialization supporting courses from agricultural education and	
mechanization, School of Technical Careers, College of Engineer-	
ing and Technology and College of Business and Adminis-	
tration	6
Agribusiness Economics	3
Animal Industries	3
Plant and Soil Science and/or Forestry	6
Electives in Agriculture	12
<i>Electives</i>	26
<i>Total</i>	120

Minor

A minor in Agricultural Education and Mechanization is offered. A total of 16 hours within the department is required. A counselor with the department must be consulted before selecting this field as a minor.

Courses

171-1 Land Measurements. One module of a four module sequence in introductory agricultural mechanization. Basic survey concepts and practices for use in soil and water management. A student may take any or all modules.

172-1 Agricultural Power and Machinery. One module of a four module sequence in introductory agricultural mechanization. Internal combustion engines; tractor power, forces and efficiency; tillage machinery, metering devices, harvesting machinery, capacities of field machinery. A student may take any or all modules.

173-1 Agricultural Electrification. One module of a four module sequence in introductory agricultural mechanization. Fundamentals of electrical flow; measuring electrical energy; circuits; conductors and distribution systems; electric motors; electrical controls. A student may enroll in any or all modules.

174-1 Agricultural Structures and Environment. One module of a four module sequence in introductory agricultural mechanization. Farm building plans; types of construction; building materials and terminology; quantities and costs; heat loss, insulation, solar energy. A student may enroll in any or all modules.

257-1 to 10 Work Experience. Credit for on-campus work experience through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Prerequisite: consent of chairperson. Mandatory Pass/Fail.

258-1 to 30 Past Work Experience. Credit for career related employment based on the evaluation of the documentation of this experience by the Department of Agricultural Education and Mechanization. No grade for past work experience. Prerequisite: consent of chairperson.

274-2 Skills in Home Maintenance and Repair. Common home related maintenance and repair activities. Units include safety and developing the home shop; construction skills related to masonry, concrete, plumbing and painting; basic electricity and practical home wiring; and lawn, garden and recreational equipment maintenance and operation.

311-4 (2, 2) Agricultural Education Programs. (a) Nature and scope of a total vocational agriculture program involving hands-on activities with secondary vocational agriculture programs. There is a \$10 laboratory fee for this course. (b) An in-depth study into the teaching methods and integral parts of the total vocational agriculture program. This involves adult work, FFA youth activities, program standards, and professionalism. There is a \$10 laboratory fee for this course.

318-3 Introduction to Computers in Agriculture. An introductory course about the use and role of computers in agriculture. The major thrust includes a basic understanding and application of micro-computers in agriculture with special emphasis on how to save time, money, and increase efficiency in agriculture.

359-1 to 6 Intern Program. Supervised work experience in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

364-3 Leadership of Youth and Peer Groups. (See Vocational Education Studies 364.)

371-2 Surveying and Planning. Surveying, mapping, land measurement, contouring, planning waterways and terraces and other water control structures used in the development and conservation of forests and agricultural land.

372-3 Agricultural Production Machinery. A course in selection capacities, application, performance, operation, maintenance, adjustments, and calibration of agricultural production machinery.

373-3 Small Engines and Electricity in Agriculture. A basic agricultural power course emphasizing principles, maintenance, and overhaul of small engines. The course also includes electrical circuit planning, practical wiring, a study of electric motors, and basic electrical controls. There is a \$10 laboratory fee for this course.

374-2 Applied Graphics. Fundamentals of interpreting graphic illustrations, sketching, drawing and lettering in agriculture, forestry, and landscape design.

381-1 to 4 (1, 1, 1, 1) Agricultural Seminar. Discussion of special topics and/or problems in the field of agricultural education and mechanization. Prerequisite: junior standing and consent of department.

384-3 Agricultural Shop and Construction Processes. Principles of shop organization and safety, tool and equipment utilization as related to hot and cold metals, woodworking, plumbing, and concrete construction. There is a \$15 additional charge for this course.

388-1 to 16 (1 to 8 per semester) International Studies. Course work undertaken as part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

390-1 to 4 Special Studies in Agricultural Education and Mechanization. Assignments involving research and individual problems. Field trips. Prerequisite: consent of chairperson.

391-1 to 4 Honors in Agricultural Education and Mechanization. Completion of honors paper and comparable project under the supervision of one or more faculty members. Subject matter

depends upon the needs and interests of the student. Prerequisite: junior, GPA 3.0 with a 3.25 in major; approval of staff member, department chairperson. Elective Pass/Fail.

402-1 to 12 (1 to 6 per topic) Problems in Agricultural Education and Mechanization. (a) Agriculture Education, (b) Agriculture Mechanization. Designed to improve the techniques of agricultural education and mechanization workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. A limit of six hours will be counted toward graduation in master's degree program. Prerequisite: consent of chairperson.

411-3 Program Development in Agricultural Extension. Principles and procedures in developing extension programs with emphasis on program determination and methods. Prerequisite: junior standing.

412-3 Principles of Agriculture Mechanization. Theory and use of educational materials and devices adaptable to the needs and interests of educators involved in agricultural mechanization laboratories. There is a \$15 additional charge for this course.

414-3 Adult Education Procedures, Methods, and Techniques. Determining adult education needs and interests of the community. Securing and organizing the information needed for adult education programs and planning teaching activities.

415-3 Beginning Teacher Seminar. The application, in the professional field setting of principles and philosophies of the education system. Includes application of principles of curricula construction, programming student and community needs. Prerequisite: consent of instructor.

472-3 Agricultural Tractors and Engines. Tractor performance and selection, principles of operation, maintenance analysis, and tuneup of multi-cylinder farm type internal combustion engines. There is a \$5 additional charge for this course.

473-2 Advanced Agricultural Electricity. Application of electricity to agricultural problems. An emphasis on principles of electrical distribution on the farm and/or the agribusiness operation. Planning the efficient usage of electricity. Prerequisite: 379 or equivalent.

474-2 Advanced Agricultural Structures. A study of design characteristics applicable to farm structures. Emphasis is given to economics, utilization, environment, materials and types of structures. Plans and drawings of farmstead layout, service buildings, and rural residential buildings are made. Prerequisite: 378 or equivalent.

483-3 Agricultural Materials Handling, Processing, and Storage. Arrangement of systems for animal waste disposal, feed handling and processing, and storage of agricultural products. Prerequisite: 378 or 379 or 473 or 474.

500-3 Agricultural Education and Mechanization Research Methodology.

525-3 Program Development in Agricultural Education.

526-3 Professional Development in Agricultural Education.

571-3 Current Problems and Research in Agricultural Power and Machinery.

581-1 to 8 (1 to 4 per topic) Seminar.

588-1 to 8 International Graduate Studies.

590-1 to 4 Readings.

593-1 to 4 Individual Research.

595-1 to 4 Agricultural Occupational Internship.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Agriculture (Courses)

Courses

110-3 Agriculture and Society. An introductory and general inquiry about the role and characteristics of farm and off-farm agriculture in our non-agrarian society. To acquaint students with important aspects of the various fields of agriculture and agrarian relationships to our society.

259-2 to 40 Technology in Agriculture. For credit earned in technical or occupational proficiency above the high school level (by departmental evaluation).

333-2 Agriculture and Forestry Environmental Problems. An overview course directed at the environmental problems of food, fiber and forest products, production and processing and their potential solutions. A team taught course within the School of Agriculture.

388-1 to 16 (1 to 8 per semester) International Studies in Agriculture. Course work undertaken as a part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: School of Agriculture or department within the school approval.

401-3 Fundamentals of Environmental Education. (Same as Forestry 401 and Recreation 401.) A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation and/or education, or consent of instructor.

423-3 Environmental Interpretation. (Same as Forestry 423 and Recreation 423.) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

Agriculture, General (Major)

General agriculture is an excellent choice of agricultural major for the students who wish a flexible program which permits them ample selection of courses to satisfy their interests and abilities, as well as to attain their educational and professional goals. The minimum requirements give students a broad background in agriculture; the unusual freedom in selecting courses to fulfill these minimum requirements as well as the large number of free electives permit students to individualize their educational experience.

Production Agriculture Specialization. Students gain basic preparation for many of the agricultural careers: general farming, agricultural services, agricultural extension, agricultural communications, agricultural business, agricultural industry, and agricultural production. For students whose interest is production agriculture, typical courses which are used to fulfill the minimum course distribution among the three departments in which work is required are Agribusiness Economics 204, 350, Agricultural Education and Mechanization 372, Animal Industries 121, 122, 215, and 315, Plant and Soil Science 200, 240, and 300a.

Environmental Studies Specialization. In addition to serving as preparation for entry into the traditional agricultural and agricultural related occupations, students now find that the general agriculture major, with the study of soils, crops, forests, animals and their interrelatedness, is an excellent and practical way to study environmental and ecological problems. Choosing their agriculture and elective courses with this emphasis in mind permits students to specialize in environmental studies within the major, general agriculture. For this specialization, the general agriculture requirements remain the same; however, to fulfill the requirements, students must complete as agriculture or elective courses, thirty hours from among Agriculture 333, 401, 423; Agribusiness Economics 440; Animal Industries 455; Forestry 301, 331, 409, 430, 453; Plant and Soil Science 328a, 346, 420, 468; Economics 333; Thermal and Environmental Engineering 314; Political Science 325. Substitute courses may be approved through the office of the dean of the School of Agriculture.

Country Living Specialization. This specialization is available in the general agriculture major. This area of study provides the student with a background to more effectively manage and enjoy an acreage in the country. Suggested courses are Agribusiness Economics 302; Agricultural Education and Mechanization 274; Animal Industries 121, 201, 319; Forestry 341; Plant and Soil Science 238, 325, 328, 346. The selection of these courses or others in the School of Agriculture should be made by the student jointly with a staff member in the school.

Bachelor of Science Degree, School of Agriculture

<i>General Studies Requirements</i>	48
Botany 200, Chemistry 140a, Zoology 118	11
GSB 211 or Agribusiness Economics 204	3
Elective GSB ¹	6
GSC ¹	9
GSD 101, 107, 153	10
Additional GSA, GSB or GSC	3

GSD 117, 118, or 119.....	2
GSE	4
<i>Requirements for Major in General Agriculture</i>	<i>44</i>
Chemistry 140b.....	4
A minimum of eight hours in each of three departments in the School of Agriculture ²	24
Agricultural and Forestry Electives ²	16
<i>Electives</i>	<i>28</i>
<i>Total</i>	<i>120</i>

¹For environmental studies specialization, GSB 220 and GSB/C 221 are required.
²School of Agriculture courses must include at least 15 hours of 300 and 400 level courses, with no less than 9 hours on the 400 level.

Minor

A minor in general agriculture with either an environmental studies or a country living specialization requires 16 hours in the respective area from the courses listed above for the specialization.

Allied Health Careers
Specialties (Program, Specialized Major)

Individual courses of study leading to specialties in allied health career fields are offered by the School of Technical Careers through programs which combine clinical experience with appropriate courses from throughout the University, from community colleges, and from other educational institutions.

Each student works with an adviser to design a core curriculum and clinical experience in an appropriate clinical setting. The student may study in such fields as medical laboratory technology, radiologic technology, respiratory therapy.

Because programs are individually designed, prospective students must consult with the faculty about course and program requirements. Persons interested in the allied health careers specialties program should contact the director of the Division of Allied Health and Public Services

The program is intended to accommodate the non-traditional student. Enrollment is limited by the availability of clinical facilities and supervising faculty; prospective students are urged to begin the admission and advisement process well in advance of the semester in which they wish to begin their studies.

Additional expenses required to cover cost of uniforms, liability insurance, and other items will be \$100.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

<i>Requirements for Major in Allied Health Careers Specialties</i>	
GSD 101, 107, and 152	9
School of Technical Careers 107a, b, 141.....	7
GSB 202	3
Electives/support courses which will change according to areas of concentration.....	10
Clinical phases will consist of a minimum of.....	36
The clinical phase of the curriculum requires the selection of two allied health careers specialty areas.	
<i>Total</i>	<i>65</i>

Courses

101-1 to 4 Introduction to the Clinical Laboratory Technology. Introduces the student to the field of medical technology and the basic concepts of the clinical laboratory. By utilizing principles from the sciences and applying to a clinical situation, the student will develop skills, safety awareness, and interpersonal relationships. Prerequisite: consent of program adviser.

102-4 Introduction to Radiologic Technology and Radiographic Technique. Introduces the student radiographer to the roles and responsibilities of the radiographer, radiology, hospital rules and regulations, medical ethics, terminology, and principles of radiation protection. Also includes an introduction to the prime factors of exposure and their effect on radiographic film, the study of x-ray film, and processing techniques. Prerequisite: consent of program adviser.

104-4 Introduction to Medical Assisting. Introduction to the roles and functions of the medical assistant. Emphasis is placed on personal and community health, medical law and ethics.

105-2 Medical Terminology. Introduction to the study of medical language with a working knowledge of the most common word roots, prefixes, suffixes in medical terminology. Emphasis placed on spelling, pronunciation, use of the medical dictionary, vocabulary building, common abbreviations, and charting terms.

112-3 Anatomy and Positioning I. Designed to provide the student radiographer with didactic instruction and laboratory experience which will lead to the development of the desired clinical competencies and will serve as a foundation for the development of advanced clinical skills. Positioning competencies developed are those that include radiography of the chest, abdomen, and upper extremity. Prerequisite: consent of program adviser.

114-4 Medical Assistant Clinical Procedures I. To familiarize the medical assistant student with preparing the patient for examination in the physician's office; taking temperature, pulse, respiration, blood pressure, assisting the physician; care and preparation of sterile equipment, methods of sterilization; knowledge and care of instruments and ordering supplies. Prerequisite: 104.

124-2 Disease Conditions. Introduction to the study of diseases and disorders of the various body systems. The disease processes as they relate to bodily functions, their signs, symptoms, and treatment will be covered within the scope of medical assisting. Prerequisite: 105.

125-1 to 4 Survey of Allied Health Related Sciences. Emphasizes the concept of health and the basic needs of people, both in a state of health and as altered by illness. This includes the principles of the physical, biological and behavioral sciences and the knowledge basic to the proper understanding of various allied health procedures. Prerequisite: consent of the program adviser.

132-3 Anatomy and Positioning II. A continuation of 112 designed for the further development of clinical skills and competencies through continued didactic and laboratory experience. Positioning competencies developed are those that include radiography of the lower extremity, pelvic girdle, spine, and elementary skills in digestive system radiography. Eight weeks. Prerequisite: consent of program adviser.

151-1 to 10 Clinical Laboratory Techniques. Specific tasks in the areas of urinalysis, coagulation, hematology, and serology are taught. Emphasis is on the development of background information, clinical knowledge, and clinical skills. Clinical information obtained through the performance of tasks is evaluated and related to its function in the clinical setting. Methods of data gathering and problem solving are developed. Prerequisite: consent of program adviser.

152-1 to 10 Clinical Radiologic Techniques. Basic radiographic anatomy and positioning of the extremities, chest and abdomen, techniques and practice in specialized radiographic procedures will be taught. Emphasis is placed on patient handling, radiation safety, darkroom procedures, and application of electrical and radiation physics. Clinical skills, clinical knowledge and clinical information obtained through the performance of tasks are validated and related to their function in the clinical setting. Prerequisite: consent of program adviser.

201-1 to 10 Clinical Laboratory Techniques. Specific tasks in the areas of blood banking, clinical bacteriology, and clinical chemistry are taught. Emphasis is on the development of background information, clinical knowledge, and clinical skills. Clinical information obtained through the performance of tasks is evaluated and related to its function in the clinical setting. Methods for data gathering and problem solving are developed. Prerequisite: consent of program adviser.

202-3 Radiographic Physics. This course will concentrate on general theories of physics as they relate to matter, mechanics, and electricity. It also involves a study of the nature and production of radiation and an understanding of the complexity of radiographic equipment and circuitry. Prerequisite: 102 and 112.

203-5 Principles of Respiratory Therapy. Introduction to the state of the art and fundamental principles and devices used in respiratory care practices. Significance is given to indications and contraindications for therapeutic modalities, appropriate equipment selection, airway management, and rehabilitative practices. Five hours lecture per week. Prerequisite: consent of instructor. Elective Pass/Fail with consent of program supervisor.

204-3 Medical Assistant Clinical Sciences: Radiology and Physical Therapy. Aide-level

competencies in radiologic technology and physical therapy will be achieved. Emphasis placed on the use of these skills within a physician's office. Prerequisite: 105.

209-4 Water Analysis I. Overview of major problems related to the waste and drinking water. Introduction to the terminology and basic concepts. Student will be taught the role and importance of sampling in obtaining water quality data. In addition to sampling techniques, the student will learn to evaluate sampling data. Two hours lecture; four hours laboratory. Prerequisite: consent of instructor.

212-2 Radiology Computerization. Designed to introduce the student to the use of computers in the radiology department. Emphasis will be placed on computer programming for imaging and administrative purposes.

213-1 Respiratory Therapy Exercises. Concepts and theories are applied in a laboratory setting to enhance a working knowledge with respiratory therapy equipment, physical principles, and pulmonary therapeutic techniques. Two laboratory hours per week. Prerequisite: concurrent enrollment in 203. Elective Pass/Fail with consent of program supervisor.

214-4 Medical Assistant Clinical Procedures II. To familiarize the medical assistant with the metric system, basic pharmacology, and preparation of medication; proper techniques for drug administration, oral, parenteral, and topical; observing and doing EKG procedures; emergency medical care and first-aid and cardiopulmonary resuscitation. Prerequisite: 114.

219-5 Water Analysis II. Student will be taught to analyze all the basic water parameters. Student will develop skill in performing these parameter tests on a variety of sample types, including natural, wastewater, and sludges. Three hours lecture; five hours laboratory.

222-10 Radiography Clinic I. The student is assigned to a selected clinical education center for the entire semester. During this semester, the student radiographer is expected to practice and perfect the professional skills developed the previous semester on campus. The student is supervised by a qualified radiographer and directed in specific experiences designed to meet the objectives for the semester. Prerequisite: 102, 112, 132, 202.

223-2 Patient Care Techniques. Basic principles and essential skills necessary to perform patient care safely and effectively. Skills include surgical asepsis, terminology, communication, patient assessment and positioning, medical ethics, and behavioral problems unique to patients with respiratory illnesses. Two lecture hours per week. Prerequisite: consent of program adviser. Elective Pass/Fail with consent of program supervisor.

224-6 (2, 4) Medical Assisting Internship. Medical assisting experience in both front-office and back-office skills will be obtained by placement in a local physician's office under close supervision. (a) Administrative/clerical practice will be gained. (b) Clinical experience as well as those advanced administrative procedures not completed in (a) will be covered. To be taken in conjunction with 234. Prerequisite: 214.

232-4 Selected Systems Radiography. This course includes the study of anatomy and radiography of specific digestive system organs, cranial and facial bones, and radiography of the genitourinary system. Special study of mobile radiography and xeroradiographic technique is included. Prerequisite: 222.

234-3 (1, 2) Medical Assisting Seminar. Students will review patient care, office procedures, medical forms, and all other aspects of the administrative/clinical duties performed in their internship. Specific needs and problems encountered in the individual offices will be discussed. 224a and 234a must be taken concurrently. 224b and 234b must be taken concurrently. Prerequisite: 214.

243-3 Basic Cardiopulmonary Physiology. Physiological functions are presented which include acid-base relationships, gas perfusion, controlling mechanisms of ventilation, ventilation/perfusion relationships, hemodynamics of the cardiopulmonary and renal systems, and blood gas analysis. Three lecture hours per week. Prerequisite: consent of program adviser.

253-1 Clinical Practice I. Orientation to the clinical setting with special emphasis on basic procedures and the role of the respiratory therapy department as part of the health care system. One eight-hour session per week. Prerequisite: 203.

263-2 Principles of Mechanical Ventilation. Introduces mechanical function of equipment used in continuous and intermittent ventilation of adult, pediatric, and neonatal patients. Indications, contraindications, and hazards of continuous ventilation are presented with significance given to ventilatory management and monitoring techniques. Two lecture hours per week. Prerequisite: 203 and concurrent enrollment in 273.

273-1 Mechanical Ventilation Laboratory. Emphasis on functional mechanical ventilation characteristics, the assembly of patient circuits, ventilator monitoring, and weaning techniques. Also included is the analysis of arterial blood gas parameters and assessment of the ventilator patient. Two laboratory hours per week. Prerequisite: concurrent enrollment in 263.

283-2 Survey of Pulmonary Diseases. The study of the nature and cause of pulmonary diseases which involve changes in structure and function. The etiology, pathogenesis, clinical manifestations, laboratory data, and treatment for major chronic and acute pulmonary disease entities will be presented. Three lecture hours per week. Prerequisite: 243. Elective Pass/Fail with consent of program supervisor.

293-2 Clinical Practice II. Supervised clinical experience which emphasizes fundamental respiratory therapy procedures and introduces the student to critical care management. Sixteen clinical hours per week. Prerequisite: 253.

300-1 to 3 Seminar in Allied Health. A topical seminar conducted by staff members or distinguished guest lecturers on pertinent areas of allied health. Prerequisite: consent of instructor and department.

302-6 Clinic III. The experience obtained in 302 is an extension of the knowledge learned in 122 and 222. The time spent in training will allow the students to put to use the practices they have previously learned and continue to use the radiation protection techniques and ethical behavior they have already learned from previous courses.

312-3 Radiographic Pathology. This course provides a study of pathology as it relates to the human body and radiography. Special emphasis will be placed on general disease types and their conditions in relation to radiographic visualization and pathology and its relation to technique. Prerequisite: 232.

313-3 Respiratory Pharmacology. The study of drugs: their origin, nature, properties, and effects on living tissues. Significance is given to drugs which reflect changes on the cardiopulmonary and renal systems. Three lecture hours per week. Prerequisite: 243. Elective Pass/Fail with consent of program supervisor.

322-4 Special Procedures and Cross Sectional Anatomy. Includes the study of contrast producing agents which are used to visualize specific parts of the body. Radiographic technique employed in this type of imaging is highly specialized and will be studied in-depth in this course. Also included is the study of anatomical structures from the transverse section perspective. Prerequisite: 112, 132, 232, School of Technical Careers 141 or consent of program adviser.

323-3 Respiratory Pathophysiology. Discussion of pulmonary complications with obstructive and restrictive disease components and their relationships with pulmonary function studies and blood gas analysis. Emphasis is given to patients with complications directly or indirectly affecting respiration. Three lecture hours per week. Prerequisite: 283.

332-10 Radiography Clinic II. The student returns to the clinical education center for this semester. The student radiographer is expected to continue to practice previously developed professional skills and to assume performance of additional examinations studied during the previous semester. This semester of clinical study includes proficiency testing which, when completed, will allow the student to assume full responsibility for the examination in the future.

342-2 Radiation Biology, Therapy, and Nuclear Medicine. This course is designed to provide the student with a knowledge of the development of radiobiology, the harmful effects of irradiation, radiation syndromes, and radiation oncology as it pertains to pathology and treatment. Also covered will be a survey of contemporary nuclear medicine and radiation therapy practices and application.

343-2 Neonatal/Pediatric Respiratory Care. Respiratory care of the neonate and pediatric patient is presented with special emphasis on physiology, pulmonary complications, and related general and intensive care procedures. Also included is neonatal transportation and assessment of the sick newborn and child. Two lecture hours per week. Prerequisite: 243. Elective Pass/Fail with consent of program supervisor.

352-4 Special Imaging Modalities. This course provides the student with the knowledge and understanding relevant to the function, operation, and application of the various techniques used in image production.

353-8 Clinical Internship. Integration of clinical practice and knowledge for the advanced student. Students receive clinical experience in neonatal and adult intensive care units with an emphasis in ventilatory management. Students should plan to attend a major medical institution off campus for sixteen weeks in the fall. Prerequisite: 293.

362-4 Radiography Clinic III. The student returns to the clinical education center to complete the final clinical assignments. Final competency examinations will be conducted in selected routine diagnostic procedures and fluoroscopic examinations. Rotations to specialized imaging areas will be included in this ten-week clinical assignment. Prerequisite: 312, 322, 342, 352.

363-3 Pulmonary Evaluation and Monitoring. Emphasis on diagnostic and monitoring principles used in determining clinical evaluation of patients. Cardiopulmonary assessment is presented utilizing electrocardiography, chest roentgenology, laboratory tests, and physiologic shunt and deadspace calculations. Three lecture hours per week. Prerequisite: 283. Elective Pass/Fail with consent of program supervisor.

372-6 (2,2,2) Radiographic Film Critique. (a) Concurrent with clinical study, the student will participate in the technical review of the films taken fulfilling introductory objectives set for this course. Prerequisite: 102, 112, 132, 202. (b) The student will continue to develop abilities to review an examination from a technical standpoint utilizing more advanced knowledge to fulfill course objectives. Prerequisite: 212, 232. (c) Final competencies in the technical production and review of the finished radiograph are determined and evaluated. Also included is a review of the knowledge learned in the program. Prerequisite: 312, 322, 342, 352 or consent of program adviser.

373-4 (2, 2) Clinical Practice III. (a) Supervised clinical experience emphasizing diagnostic and monitoring procedures used in evaluating patients with cardiopulmonary complications. (b) Research seminar: a faculty supervised research project identifying rural clinical problems relevant to respiratory therapy is completed by the student. Prerequisite: 353.

Animal Industries (Department, Major, Courses)

Instruction, research, demonstration, and consultation are provided in dairy, horse, livestock and poultry production, meats, pets, and animal hygiene. Courses are offered in all phases of animal production and management.

The student has opportunity to select courses in other areas of agriculture or related fields, such as business, biology, or physical sciences. This selection allows students to include in their studies the agronomic, agricultural economic, and agricultural engineering phases of agriculture or business as related to animal production.

In addition to the production, and the science and pre-veterinary medicine options, the department also offers a two-year and a three-year curriculum in pre-veterinary medicine. These allow qualified students to transfer to accredited colleges of veterinary medicine prior to receiving the Bachelor of Science degree in animal industries.

A major in animal industries may not take a departmental course on an elective Pass/Fail basis if the credits are to be applied toward the required thirty hours in animal industries courses. Majors may take departmental courses beyond the thirty hour requirement on an elective Pass/Fail basis.

There may be extra expenses for field trips, manuals, or supplies in some courses.

Bachelor of Science Degree, School of Agriculture

ANIMAL INDUSTRIES MAJOR — PRODUCTION OPTION

<i>General Studies and Substitutes</i>	50-51
Substitute Chemistry 140a, b or equivalent for GSA 106	8
Substitute Biology 306, 308, 309, Botany 200 or Zoology 118 for GSA 115	3-4
GSA 208, 209 or substitute	4
GSD 199a, 153 required	4
<i>Requirements for Major in Animal Industries</i>	42
Animal Industries 121, 122, 123, 210 or 311a, 215, 312, 315, 332, 381 plus one course from 420, 430, 465, 480 or 485	21-23
Animal Industries electives including one additional 400-level course	7-9
Agriculture electives excluding Animal Industries courses	8
Microbiology	4
<i>Electives</i>	27-28
<i>Total</i>	120

ANIMAL INDUSTRIES MAJOR — SCIENCE AND PRE-VETERINARY OPTION

<i>General Studies and Substitutes</i>	64
Substitute Chemistry 222a,b or equivalent for GSA 106	8
Substitute Physics 203a,b and 253a,b for GSA 101	8
Substitute Mathematics 110a,b for GSD 107	5
Biology	8
GSA 208, 209, or substitute	4
GSD 199a, 153 required	4
<i>Requirements for Major in Animal Industries</i>	57
Organic Chemistry and Biochemistry	15
Microbiology	4

Animal Industries 121, 122, 123, 210 or 311a, 215, 312, 315, 332, 381 plus one course from 420, 430, 465, 480, or 485	21-23
Animal Industries including one additional 400- level course	7-9
Agriculture electives excluding Animal Industries courses	8
Total	121

Minor

A minor in animal industries is available to those interested in livestock production and care of companion animals. A total of 16 hours within the department is required. Courses may be selected from the areas of nutrition, hygiene, breeding and genetics, reproductive physiology, meats, and livestock production, including horses and pets. An adviser within the department must be consulted before selecting this field as a minor.

Courses

121-3 Science of Animals that Serve Mankind. A general overview of dairy, meat animals (swine, beef, sheep), poultry, and horse industries with emphasis on how meat, milk, and poultry products are produced and distributed. The general application of genetic, physiologic, and nutrition principles for the improvement of animal production to further serve people. Prerequisite: concurrent enrollment in 122.

122-1 Production and Processing Practices of the Animal Industry. Livestock facilities, demonstration of management practices of animals for human use and the processing of animal products. Can be taken without concurrent enrollment in 121. Elective Pass/Fail.

123-1 Practicum in Animal Production. A set of practical experiences at each livestock center and a proficiency examination. Required of all majors in animal industries before graduation. Mandatory Pass/Fail.

201-3 Care and Management of Pets. Principles and practices of proper selection, feeding, and care of companion animals. Emphasis is placed on the dog and cat but other species are considered. Nutrition, health care, behavior, training, and reproduction are discussed. Elective Pass/Fail.

210-3 Meat, Poultry and Milk Products as Related to the Consumer. Processing and distribution including inspection, grading, processing methods and merchandising as well as selection and preparation including pricing, storage or preservation, cooking, serving and the contribution to a well-balanced diet of meat, poultry and milk products. Field trip. Elective Pass/Fail.

215-2 Introduction to Animal Nutrition. An up-to-date study of basic principles of animal nutrition including classification of nutrients (physical and chemical properties) and their uses in order to provide the student a working knowledge of livestock nutrition in today's animal environment. Prerequisite: Chemistry 140 or equivalent. Elective Pass/Fail.

220-2 Equitation. Equitation as related to horse training and management. For students who have completed 319, have limited riding experience, and need equitation training to enter 419. Field trip. Enrollment limited. Additional costs \$15. Prerequisite: consent of instructor. Mandatory Pass/Fail.

257-1 to 10 Work Experience. Credit given for on-campus work experience related to the student's major area of specialization as developed through the department and the Office of Student Work and Financial Assistance. Only 10 hours of credit may be taken in 257, or in any combination with 258. Prerequisite: consent of chairperson. Mandatory Pass/Fail.

258-1 to 10 Prior Work Experience. Credit given for work experience related to the student's major area of specialization prior to University entrance. Only 10 hours of credit may be taken in 258, or in any combination with 257. No grade for prior work experience. Prerequisite: consent of chairperson.

311-4 (2, 2) Breeds, Classes, Grades, and Selection of Farm Animals and Poultry. (a) Discussion of breeds and classes of livestock, dairy and poultry; grading and selection of breeding and market animals and their carcasses or products. (b) Competitive judging and selection of livestock, dairy, or poultry. Field trips required. Participation on S.I.U. judging team is not a required part of this course. Must be taken in a,b sequence. Prerequisite: 121 recommended. Elective Pass/Fail.

312-2 Anatomy, Growth, and Development. Anatomy, gross and microscopic, and development processes of bone, muscle and fat tissue of meat animals and the factors which influence their relative rates of formation during the growth process and thus alter body composition and product quality. Prerequisite: Chemistry 140 or equivalent.

315-3 Feeds and Feeding. Principles of applied animal nutrition. Ration formulation to meet

specific nutrient needs of all classes of livestock. Feedstuff evaluation, including cost will be discussed. Prerequisite: GSD 107.

319-3 Horses. An introductory course designed for students with interest in horses regardless of their major or background. Lectures, demonstrations, and laboratory work with horses provide basic information and terminology as well as principles and practices of proper selection, use, care, and management of horses. Field trip. Elective Pass/Fail.

331-3 Functions of Animal Systems. A course in the physiology of domestic animals. Various functions of mammalian organisms are discussed using the organ system approach. Human physiology is used as a basis to present the systemic functions of domestic animals. Differences in the functions of monogastric, ruminant, and avian species are presented.

332-3 Animal Breeding and Genetics. The application of basic principles of genetics and breeding systems to the improvement of farm animals and poultry. Prerequisite: 121 or biology. Elective Pass/Fail.

337-3 Animal Hygiene. Principles of prevention and control of infectious, nutritional, and parasitic disease of farm animals. Prerequisite: a course in chemistry. Elective Pass/Fail.

359-2 to 6 (2 to 3, 2 to 3) Intern Program. Work experience program in animal production units and agricultural agencies of the government or agribusiness. Prerequisite: junior standing and consent of chairperson. Mandatory Pass/Fail.

380-1 to 6 Field Studies in Foreign and Domestic Animal Agriculture. A travel course to observe and study the operation and management of farms, ranches, and feedlots as well as agribusiness firms supporting animal production such as food processors, feed manufacturers, and housing or equipment companies in either the United States or foreign countries. A written report is required. The travel fee charged to the student will depend on the nature and the length of the course. Elective Pass/Fail.

381-1 Animal Science Seminar. Discussion of problems and recent development in animal science. Prerequisite: junior-senior standing.

390-1 to 4 Special Studies Animal Industries. Assignments involving research and individual problems. Prerequisite: juniors and seniors only and consent of chairperson. Mandatory Pass/Fail.

410-3 Meat Science. Chemical, physical and nutritional properties of meat and meat products. Topics covered include muscle function, tissue growth and development, aspects of post mortem change including rigor mortis, meat microbiology, methods of analysis and quality control. Prerequisite: 210, Chemistry 140 or equivalent, and a course in physiology.

414-2 Animal Feed Quality Control. Laboratory procedures for nutrient determinations used in animal feed quality control. Prerequisite: Chemistry 140 or equivalent.

415-3 Monogastric Nutrition. Advanced principles and practices involved in meeting nutrient requirements of monogastric animals. Prerequisite: 215 and 315.

416-3 Ruminant Nutrition. Practical knowledge gained of problems associated with digestion, absorption, and metabolism of nutrients as related to domestic ruminants, horses and other pseudoruminants. Prerequisite: 215 and 315.

419-3 Stable Management and Horsemanship. Laboratory experience in routines of horse care, training, and management. Field trips. Additional costs \$5. Prerequisite: 319.

420-4 Commercial Poultry Production. Principles and practices of management of broilers, layers, and turkeys as adapted to commercial operations. Field trip. Prerequisite: 315 or consent of instructor.

421-2 International Animal Production. A study of world animal production practices with emphasis on the developing countries. Adaptability of animals to environmental extremes and management practices employed to improve productivity. Prerequisite: junior standing plus 121 or one year of biological science. Elective Pass/Fail.

430-4 Dairy Cattle Management. Application of the principles of breeding, physiology, and economics to management of a profitable dairy herd. Breeds of dairy cattle, housing, milking practices, and quality milk production. Field trip. Students enrolled will incur field trip expenses of approximately \$25. Prerequisite: 315, 332.

431-4 Reproductive Physiology of Domestic Animals. Comparative anatomy and physiology of the male and female reproductive system of domestic animals; hormones, reproductive cycles; mating behavior; gestation and parturition; sperm physiology; collection and processing of semen; artificial insemination, pregnancy tests; diseases. Prerequisite: 121 or a course in physiology.

432-2 Quantitative Inheritance of Farm Animals. A review of the genetic principles underlying changes in animal breeding population; interpretations of gene frequency, heritability, and genetic correlations; application of selection and breeding systems in farm animals. Prerequisite: 332. Elective Pass/Fail.

434-2 Physiology of Lactation. Anatomy and physiology of milk secretion; endocrine control; milk precursors and synthesis; milk composition; physiology and mechanics of milking, mastitis. Prerequisite: course in physiology.

455-2 Animal Waste Management. Acquaints the student with the scope and problems involved with animal waste management, current regulations and laws on environmental protection. Principles covering waste management technology and current livestock waste management systems are presented. Field trips will be scheduled. Prerequisite: junior standing.

465-4 Swine Production. Swine production systems and management techniques including breeding and selection, reproduction, nutrition, herd health and disease prevention, housing and waste management, marketing, production costs and enterprise analysis. Field trip. Prerequisite: 315 and 332 or consent of instructor.

480-3 Sheep Production. Breeding, feeding, and management of sheep. Field trip. Prerequisite: 315.

485-4 Beef Production. Beef cattle production systems and management, breeding and selection, reproduction, nutrition, and herd health with emphasis on the most economical and efficient systems. Field trip. Students enrolled will incur field trip expenses of approximately \$5. Prerequisite: 315 and 332 or consent of instructor.

500-3 Research Methods in Agricultural Science.

502-2 Surgical Research Techniques in Farm Animals.

506-3 Instrumentation Methods in Agricultural Science.

515-3 Energy and Protein Utilization.

516-3 Minerals and Vitamins in Animal Nutrition.

531-2 Livestock Management for Reproductive Efficiency.

581-1 to 2 (1, 1) Seminar.

588-1 to 8 International Graduate Studies.

590-1 to 3 Readings in Animal Industries.

593-1 to 3 Individual Research.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Anthropology (Department, Major, Courses)

Anthropology is the study of humans and their cultures in terms of universal features, variability, and development through time. The major subdivisions are socio-cultural anthropology, linguistics, archaeology, and physical anthropology. The student is expected to gain a broad background in all subfields, after which the options of further general study or specialization are available. Students are encouraged to supplement their anthropological studies with work in other social sciences, and where appropriate in biology, earth sciences, humanities, mathematics, or other areas.

Most professional anthropologists find employment as teachers and researchers in colleges and universities. However, a major in anthropology provides the student with a unique liberal arts background bridging the humanities, social, earth, and biological sciences, which leads to many other professional opportunities outside of teaching and research.

An anthropology major is required to take Anthropology 300A, B, C, D, and one each of the 410 and 470 course series. No more than six hours of Anthropology 460 and no more than six hours of 200-level course work may be applied toward the major. Those students interested in advanced degrees will be advised to take Anthropology 400A, B, C, D (total 12 hours) with the remainder of the hours as electives. It should be noted that graduate departments often require foreign language and mathematical background beyond that required by the undergraduate program. Those students not interested in advanced study will be advised on an individual basis reflecting their own particular interests and aspirations.

Students with exceptional scholarly promise may be invited into the departmental honors program, which includes an honors seminar and the writing of an honors thesis under the direction of a departmental faculty member.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements (See page 72)</i>	(4) + 8-14
<i>Requirements for Major in Anthropology</i>	32
Anthropology 300A, 300B, 300C, and 300D required, and an additional nine hours of 400-level course work in anthropology.	
<i>Electives</i>	29-35
<i>Total</i>	120

Minor

A minor in anthropology consists of at least 15 hours including at least two of the four courses: 300A, 300B, 300C, 300D, and a minimum of three of the remaining nine hours at the 400 level.

A minor in anthropology for students interested in museum studies may be earned by taking a designated series of museum-oriented courses offered by the Departments of Anthropology, Geology, History, and the School of Art. Required courses for the minor are drawn from the following: Anthropology 450a,b; Art 207, 447; Geology 445; and History 497, 498.

Courses

201-3 Archaeology of Illinois. A survey of prehistoric cultural development, its causes and consequences, as seen through the archaeology of Native American cultural development in the Illinois region, from the earliest foragers to European contact.

203-3 World Archaeology: Humans Before History. A worldwide survey of the evolution of human behavior from earliest times to the beginnings of civilization.

221-3 The Anthropology of Sexual Behavior. Introduces the student to general primate ethology where sexual behaviors are seen to be a function of band needs. Patterns of sexuality are then examined on a cross-cultural basis where attitudinal and cultural distinctions between men and women are related to socio-cultural needs and pressures. The course will conclude with an examination of modern western sexism.

225-3 Separate Realities. The focus of this course is on an anthropological approach to other realities. The works of Castaneda and Bourguignon, among others, are considered, and the functions of these states in societies, including our own, are dealt with.

231-3 Folklore and Modern Life. The folklore of a culture influences both the unconscious and conscious actions of people in subtle ways and each study helps to account for both the good and the bad which we see in ourselves and in others. The course introduces the student to the study of folklore and serves to emphasize the importance of the study of folk beliefs and their role in understanding our and other contemporary societies.

241-3 Slaves and Slavery in New World Societies. Focuses on slavery and slave systems in New World societies from a comparative historical and social anthropological/sociological perspective.

251-3 Anthropology and Science Fiction. An examination of the basic concepts of anthropology viewed through the prism of science fiction literature.

300A-3 Introduction to Physical Anthropology. An introduction to the study of human evolution. Topics include: evolutionary theory and its history, human genetics, nonhuman primates, the human fossil record, and the origins of races. No prerequisites.

300B-3 Introduction to Linguistic Anthropology. Introduces the concept of culture as revealed through human language. Provides both theory and methodology basic to linguistics and non-linguistic specialists within anthropology.

300C-3 Introduction to Archaeology. Theory and method of anthropological archaeology for non-majors and majors.

300D-3 Introduction to Social-Cultural Anthropology. Ways in which humans organize themselves for action. Emphasis will be on the social anthropological approaches to problem definition and theory. Comparative and functional analysis of kinship, economic, political, religious, and legal systems of non-Western cultures.

301-3 Language in Culture and Society. A survey of the cultural and social nature of language for the non-specialist. Topics include human and animal communication, diversity and universals of human language, expressive use of language, the relation of language and world view, social aspects of language, language and meaning.

302-3 Indians of the Americas. A region by region survey of the native Americans of North, Middle, and South America. Emphasis is on lifeways: ecology and environment, subsistence, economy, social organization, religion, art, music, and other aspects of culture. A brief introduction to pre-history and language is included.

304-3 Origins of Civilization. A study of complex environmental and cultural factors that led to a rise and fall of early high-cultures. The course will concentrate in alternate years on the Old World (Africa and Euro-Asia) and the New World (North, Middle, and South America).

320-3 Human Growth, Development, and Adaptation. The effect of environmental and genetic factors on human development will be examined. Certain classical problems will be studied as they relate to human adaptation, e.g. the physiology of high altitude adaptation, and human thermoregulatory adaptations. Prerequisite: 300A or consent of instructor.

376-2 to 8 Independent Study in Classics Program. (See Classics 496.) Elective Pass/Fail.

400A-3 Theory and Method in Physical Anthropology. Current topics in biological evolution and variation, including the theoretical and methodological background to each. Topics will be drawn from the four major areas of physical anthropology: genetics and evolutionary theory,

primate studies, human fossil record, and human variation. Prerequisite: 300a for undergraduates or consent of instructor.

400B-3 Theory and Method in Linguistic Anthropology. History of linguistic anthropology. Description and analysis of languages. Origin, development, and acquisition of language. Theory of symbolic systems. Human and animal communication. Historical linguistics. Languages in culture and society. Prerequisite: 300b for undergraduates or consent of instructor.

400C-3 Theory and Method in Archaeology. Overview of the currents and controversies in anthropological archaeology in their historical and theoretical context. Topics include history of archaeological theory, explanation in archaeology, limitations of the archaeological record, and archaeological approaches to the study of cultural variation. Prerequisite: 300c for undergraduates or consent of instructor.

400D-3 Theory and Method in Sociocultural Anthropology. Overview of contemporary approaches to social and cultural research in anthropology. Attention is given to such topics as structural functionalism, cultural ecology, dialectical and cultural materialism, ethnohistory, sociobiology, neo-Darwinism, symbolism, and cross-cultural comparison. Problem areas investigated include kinship, social structure, comparative economics, political organization, religion, culture and personality, environmental adaptation, cultural change. Prerequisite: 300d for undergraduates or consent of instructor.

402-3 People and Culture. Offered primarily for non-anthropology majors. Focuses on the nature of culture, cultural processes, and culture change with emphasis on social, political, economic, artistic, religious, and linguistic behavior of humans as individuals and in cultural groups.

404-3 Art and Technology in Anthropology. An introduction to the basic ways in which people utilize the natural resources of their habitat to meet various needs, such as food, shelter, transportation, and artistic expression. The nature of art, its locus in culture, and its integration into technological society will be considered.

406-3 Conservation Archaeology. The method and theory of archaeology in relationship to local, state, and federal laws regarding the protection and excavation of antiquities. Emphasis is on problem-oriented survey and excavation, as well as the preparation of archaeological contracts and the writing of reports to satisfy statutes involving environmental concerns. Prerequisite: 300C or 400C or consent of instructor.

409-3 History of Anthropology. The development of anthropological thought in the four subfields of the discipline (sociocultural, physical, linguistics, archaeology). Emphasis is on concepts, ideas, and work of major practitioners of the early 19th to the middle of the 20th centuries, and on the major trends that have led to specialties found in anthropology today. The present status of anthropology as an academic discipline is briefly explored, and an attempt is made to assess the future of the discipline in terms of intellectual and practical concerns.

410A-3 Applied Anthropology. The practical applications of theoretical social anthropology. Problems of directed culture change are examined from an anthropological perspective as they apply to the work of the educator, social worker, extension agent, administrator and others who are attempting to guide change in the life ways of others in Western culture and the third world. Prerequisite: none. 300D recommended for undergraduates.

410B-3 Educational Anthropology. An examination of the cultural processes of formal and informal education, the use of anthropological premises in educational program design, bicultural-bilingual education programs, comparative American/non-American systems, and the teaching of anthropology. Prerequisite: none. 300D recommended for undergraduates.

410C-3 Economic Anthropology. The study of non-Western economic systems. Prerequisite: none. 300D recommended for undergraduates.

410D-3 Anthropology of Folklore. A comparative study of the role of folklore in various cultures of the world, with emphasis upon nonliterate societies. Analysis of motifs, tale-types, themes and other elements; comparisons between nonliterate and literate groups. Prerequisite: none. 300D recommended for undergraduates.

410E-3 Anthropology of Law. Anthropological thought on imperative norms, morality, social control, conflict resolution and justice in the context of particular societies, preliterate and civilized. Law of selected societies is compared to illustrate important varieties. Prerequisite: none. 300D recommended for undergraduates.

410F-3 Anthropology of Religion. A comparative study of (religious) belief systems, with emphasis upon those of non-literate societies. Examination of basic premises and elements of these belief systems, normally excluded from discussions of the "Great Religions." Prerequisite: none. 300D recommended for undergraduates.

410G-3 Psychological Anthropology. Similarities and differences in personality structures cross-culturally including the historical development of this as an anthropological subdiscipline. Prerequisite: none. 300D recommended for undergraduates.

410H-3 Ethnomusicology of Oceania, Asia and Africa. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Oceania, Asia and Africa.

410I-3 Ethnomusicology of Middle East, Europe and the New World. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Europe and the New World.

410J-3 Kinship and Social Organization. Universal features of non-Western systems of kinship terminology and social organization. Topics include the structure and functioning of kinship systems, lineages, clans, sibs, phratries, moieties, and tribal units. Prerequisite: none. 300D recommended for undergraduates.

420-3 to 9 Advanced Studies in Languages of the World. Attention given to language families, focusing on studies of linguistic history, genetic relationships, and typological classification. Any one semester will concentrate on language of a major geographical area. Prerequisite: 300B or 400B or consent of instructor.

425-3 Cognitive Anthropology. The theory of culture as cognitive organization is explored. Among the topics are: Formal analysis of lexical domains, folk classifications and strategies, the problem of psychological validity, linguistic determinism and relativity, biogenetic and psycholinguistic bases of cognition, and the "new ethnography."

430A-3 Archaeology of North America. Detailed study of the early cultures of North America. Emphasis on the evolutionary cultural development of North America. Prerequisite: 300C or 400C or consent of instructor.

430B-3 Archaeology of Meso-America. Detailed study of the early cultures of Meso-America with emphasis on the evolutionary cultural development of Meso-America. Prerequisite: 300C or 400C or consent of instructor.

430C-3 Archaeology of the Southwest. Detailed study of the early cultures of the Southwest with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

430D-3 Archaeology of the Old World. Detailed study of the early cultures of the Old World with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

440A-3 Human Evolution. An advanced consideration of the fossil evidence for human evolution and evaluation of the various theories regarding the course of human evolution. Prerequisite: 300A or consent of instructor.

440B-3 Race and Human Variation. A consideration of the range, meaning and significance of contemporary human biological variation, including evolutionary and adaptive implications and the utility of the race concept. Prerequisite: 300A or consent of instructor.

441-3 Laboratory Analysis in Archaeology. Methods of analysis of archaeological data in a laboratory setting.

444-3 Human Genetics and Demography. A course in human genetics with an emphasis on population genetics and demography of modern and ancient human populations. Prerequisite: 300A, 400A or consent of instructor.

450-6 (3, 3) Museum Studies. A detailed study of museum operation to include (a) methodology and display and (b) administration, curation, and visits to or field work with area museums. Practical museum work will be stressed in both (a) and (b) and (a) must be taken before (b).

455-3 to 15 (3 per topic) Topics in Physical Anthropology. Intensive study of one of the major subfields within physical anthropology. (a) Dental anthropology. (b) Laboratory methods. (c) Primate behavior and evolution. (d) Quantitative methods. (e) Epidemiology. Prerequisite: 300a or consent of instructor.

460-1 to 12 Individual Study in Anthropology. Guided research on anthropological problems. The academic work may be done on campus or in conjunction with approved off-campus (normally field research) activities.

470-3 to 24 People and Cultures. A survey of the prehistory, cultural history and contemporary cultures of the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) Latin America, (f) Near East and North Africa, (g) North America, (h) Oceania. Prerequisite: a basic acquaintance with geography and history of the areas.

480-3 Honors Seminar. Topics to be arranged by agreement of participating faculty and students. Not open to graduate students. Prerequisite: consent of department. Elective Pass/Fail.

490-3 Field Methods and Analysis in Linguistic Anthropology. Includes theoretical background and a project in the linguistic aspects of culture. Prerequisite: 300b, 301, or 400b.

495-6 to 8 Summer Ethnographic Field School. An eight-week field research training program in Southern Illinois communities. Students will attend seminars on campus and in the field, but the greater part of the time will be spent engaging in continuous team research under the direction of the faculty members involved in the program. Some form of cooperative living arrangement in the field will be organized. The program is open to advanced undergraduate and graduate students. Prerequisite: consent of instructor.

496-1 to 8 Field School in Archaeology. Apprentice training in the field in archaeological method and theory. Students will be expected to be in full-time residence at the field school headquarters off campus. Prerequisite: consent of instructor.

499-3 Honors Thesis. Directed reading and field or library research. The student will write a thesis paper based on original research. Not open to graduate students. Prerequisite: consent of department. Elective Pass/Fail.

510-2 to 6 (2 to 3 per topic) Seminar in New World Archaeology.

511-2 to 6 (2 to 3 per topic) Seminar in Meso-American Archaeology.
 512-2 to 6 (2 to 3 per topic) Seminar in Old World Archaeology.
 513-2 to 6 (2 to 3 per topic) Seminar in Archaeology.
 515A-3 Seminar in Social-Cultural Anthropology.
 515B-3 Seminar in Social-Cultural Anthropology.
 520-2 to 6 (2 to 3 per topic) Seminar in New World Ethnology.
 521-2 to 6 (2 to 3 per topic) Seminar in Ethnology of Latin America.
 522-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Oceania.
 523-2 to 6 (2 to 3 per topic) Seminar in Anthropology of Africa.
 530-2 to 6 (2 to 3 per topic) Seminar in Physical Anthropology.
 545-2 to 6 (2 to 3 per topic) Seminar in Anthropological Linguistics.
 560-2 to 6 (2 to 3 per topic) Seminar in Comparative Social Organization.
 562-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Contemporary Peoples.
 565-2 to 6 (2 to 3 per topic) Seminar in Culture Change and Development.
 567-2 to 6 (2 to 3 per topic) Seminar in Anthropological Theory and Method.
 571-2 to 6 (2 to 3 per topic) Visual Anthropology.
 576-2 to 6 (2 to 3 per topic) Seminar in Anthropological Research Design.
 581-2 to 6 (2 to 3 per topic) Seminar in Anthropology.
 585-1 to 12 (1 to 3 per semester) Readings in Anthropology.
 590-1 to 12 Internship in Conservation Archaeology.
 595-2 Field Methods in Ethnology.
 596-4 (2, 2) Field Methods in Archaeology.
 597-1 to 12 Fieldwork in Anthropology.
 599-1 to 6 Thesis.
 600-1 to 32 (1 to 12 per semester) Dissertation.
 601-1 to 12 per semester Continuing Research.

Aquatics (Minor)

(SEE PHYSICAL EDUCATION)

Architectural Technology (Program, Major, Courses)

The continuing growth of the architectural profession requires large numbers of technicians whose training has provided a firm foundation for supporting roles in today's profession and the basis for skill development in emerging activities. The architectural technology program offers this training in a curriculum designed to produce the skills in highest demand in the market for newcomers to the profession. Appropriate general studies and field trips to architects' offices and projects supplement the technical offerings.

Intelligent, motivated students with mathematical, artistic, or manual skills will be most successful in the program. They should be prepared to spend about \$200 for equipment, supplies, and field trips.

Architects who hold professional degrees and have many years of professional and teaching experience constitute the faculty. The program has been approved by the American Institute of Architects.

An advisory committee whose members are practicing architects chosen for their understanding of today's needs in the profession and their interest in education assists the faculty in maintaining a current curriculum. Members currently serving on the advisory committee are: Edward F. Bartz, Jr., FAIA, Hellmuth-Obata and Kassabaum, Belleville, William E. Gramley, AIA, Phillips-Swager Associates, Peoria, Frederick W. Salogga, FAIA, Salogga-Bradley-Likins-Dillow, Decatur, and William H. Stein, AIA, Fischer-Stein Associates, Carbondale.

Graduates will have an understanding of the design profession, design and production processes, and other components of the construction industry. Their usual point of entry into the profession is as drafting technicians producing construction drawings. As they gain experience they may develop capabilities to accept more responsibility in such areas as project coordination, specification writing, estimating, various types of engineering, construction inspection, architectural design, and presentation.

There are also nonprofessional opportunities in the construction industry with manufacturers, material suppliers, contractors, and developers.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Architectural Technology

GSD 101, 153	6
School of Technical Careers 102, 105a,b, 107a,b	10
Architectural Technology 111, 112, 113, 124, 125, 214, 215, 216, 217, 218, 220, 224, 225, 226, 229	60
<hr/>	
Total	76

Courses

111-7.5 Architectural Drafting. Use of drafting instruments, lettering and linework; geometric construction, projections, sections and intersections; pictorial drawing, perspective, shades and shadows, and reflections. Lecture three hours. Laboratory nine hours. Prerequisite: major in architectural technology or consent of coordinator of architectural technology.

112-3.5 Architectural Graphics. Freehand drawing; various techniques in black and white media; theory and use of color; delineation techniques in various color media. Lecture one hour. Laboratory five hours. Prerequisite: major in architectural technology or consent of coordinator of architectural technology.

113-2 Architectural History. Study of influences upon, and ensuing development of architecture from the earliest examples to the present; review of the development of architectural practice to its current state. Lecture two hours. Prerequisite: major in architectural technology or consent of coordinator of architectural technology.

124-6 Architectural Drawings I. Introduction to basic materials and components used in contemporary construction. A survey of manufacturing methods, available sizes, performance characteristics, quality, finishes and applications. Usage of vendor's brochures and standard references. Preparation of working drawings in light wood frame construction to practice current procedures, dimensioning, notation, design, correlation, with standard and creative detailing. Lecture three hours. Laboratory six hours. Prerequisite: 111 and major in architectural technology or consent of coordinator of architectural technology.

125-4 Architectural Design I. Problem solving in architectural design with emphasis on design elements and principles, human scale, methods and procedures, composition, and presentation. Architectural projects of relatively small scope and simple nature; and introducing factors of circulation and environmental control. Lecture one hour. Laboratory five hours. Prerequisite: 111, 112, and 113 and major in architectural technology or consent of coordinator of architectural technology.

214-6 Architectural Drawings II. Continuing study of materials and practices in document preparation for non-complex buildings using masonry and reinforced concrete construction. Investigation and use of local, state, and federal codes regulating health and safety. Construction techniques relating to criteria of permanence, low maintenance and budget requirements. Working drawings for single floor, non-residential buildings. Lecture three hours. Laboratory six hours. Prerequisite: 124 and major in architectural technology or consent of coordinator of architectural technology.

215-4 Architectural Design II. Continuing study of architectural design with application of principles to projects of increased scope and complexity, with attention to research, site planning, and comprehensive feasibility. Presentations in various media. Lecture one hour. Laboratory five hours. Prerequisite: 125 and major in architectural technology or consent of coordinator of architectural technology.

216-4 Architectural Engineering I. Elementary study of forces and force systems using graphical and mathematical solutions. Basic engineering concepts. Reactions, shear and moment diagrams. Axial, bending, and eccentric loading on beams and columns. Application of principles in design with wood, steel, and concrete. Floor and roof support systems using dead and live load calculations. Lecture four hours. Prerequisite: School of Technical Careers 105a,b, 107a,b and major in architectural technology or consent of coordinator of architectural technology.

217-2 Architectural Systems. Basic principles of mechanical and electrical equipment of buildings. Familiarization with water supply and sanitation systems. Fundamentals of properties of heat, sources, transmission, air conditioning, and purification systems. Introduction to vertical and horizontal transportation. Fundamentals of illumination and electrical systems. Fundamentals of acoustics and materials for reflection, attenuation and isolation.

Lecture two hours. Prerequisite: School of Technical Careers 105a, b, 107a, b, and major in architectural technology or consent of coordinator of architectural technology.

218-3 Architectural Surveying. Use of surveyor's tape, transit, and level. Fundamentals of topography, area and volume calculations, site planning, and building layout. Lecture one hour. Laboratory three hours. Prerequisite: School of Technical Careers 105a,b; Architectural Technology 111; and major in architectural technology or consent of coordinator of architectural technology.

220-2 Architectural Specifications. Function of specifications as a contract document. The relationship of specifications to architectural drawings. Organization and format. Content of various sections. Lecture two hours. Prerequisite: concurrent with 224 and major in architectural technology or consent of coordinator of architectural technology.

224-6 Architectural Drawings III. Continuing study of materials and practice in document presentation for construction of multi-floor buildings of a more complex nature. Contemporary materials, components and systems. Steel and concrete framing systems using short and longspan steel joists, steel pans, pre- and post-tensioned precast components. Correlation with electrical, mechanical, and structural work. Lecture three hours. Laboratory six hours. Prerequisite: 214, 218, and major in architectural technology or consent of coordinator of architectural technology.

225-4 Architectural Design III. Continuing application of architectural design principles and procedures to projects of higher factor of usage, or greater scope and complexity of function and circulation. Continuing practice in presentation with various media. Lecture one hour. Laboratory five hours. Prerequisite: 215 and major in architectural technology or consent of coordinator of architectural technology.

226-4 Architectural Engineering II. Continuing study of structural framing materials and systems. Design and investigation of framing components of wood, steel, and concrete. Usage of wood, steel, and concrete handbooks. Standard connections and fastening methods. Concrete design, quality control, and field inspection. Beams, columns, lintels, foundations, footings, and retaining walls. Lecture four hours. Prerequisite: 216 and major in architectural technology or consent of coordinator of architectural technology.

229-2 Architectural Estimating. Estimating methods. Material lists and quantities. Material and labor costs. Factors affecting costs. Lecture two hours. Prerequisite: School of Technical Careers 105a,b; Architectural Technology 214 and major in architectural technology or consent of coordinator of architectural technology.

354-8 Architectural Project Development. Correlation of the design, design development, and construction drawing phases of a building project. Development of a project from the initial program through the three phases with appropriate drawings required for each phase. Prerequisite: 224, 225, and School of Technical Careers baccalaureate major or consent of coordinator of architectural technology.

Army Military Science (Department, Courses)

Army military science studies is a voluntary course sequence leading to a commission as an officer in the United States Army (active army, army reserves, or national guard). Students who complete the advanced course of studies six or more months prior to attaining a bachelor's degree, reservists and guardsmen participating in the simultaneous membership program, and students with guaranteed reserve forces duty can be commissioned in the United States Army Reserve or National Guard prior to graduating through the early commission program. Students entering active duty as reserve or regular army officers must have a bachelor's degree. All students must meet University academic requirements and maintain satisfactory academic progress to enter or remain in the army ROTC program. Enrollment in the basic course (freshmen and sophomore years) is unrestricted and carries no military obligation.

Acceptance in the advanced course (junior and senior years, 300-level) is contingent upon meeting academic, basic course, physical, age, test score (ACT/SAT or Cadet Evaluation Battery), and citizenship prerequisites. Students may enter the advanced course any time prerequisites are met regardless of their academic year in school. Students majoring in any field of study at Southern Illinois University at Carbondale are eligible to enter the army military science program. Students on army ROTC scholarships and students in the advanced course do incur a military obligation. The nature of the obligation varies depending on whether the student is on scholarship, is receiving an early commission in the National Guard or reserves,

or goes on active duty. All army military science scholarships and advanced course students are paid a monthly tax-free subsistence allowance.

Any student, graduate, or undergraduate, with at least two academic years remaining at the University, may participate in the advanced program. Students completing a six-week basic leadership practicum, students completing the basic course, students in the National Guard or United States Army Reserve, and veterans may all enter the advanced course without completing the basic course. Advanced course students attend a six-week advanced camp between their first and second years of the advanced course. This training is conducted at an army post. Students are furnished travel, room and board, and are paid while at camp.

Courses

100-2 (.5 to 1) Basic Leadership Laboratory. Supervised laboratory taken concurrently with 100 and 200 level army military science courses. Course consists of a core of subjects which are designed to introduce the student to basic army military science subjects: role of military, proper wear of uniform, military courtesy, drill and ceremonies. Modules will be taught in land navigation, tactics, rappelling, physical training, and organized athletics. Students will have opportunities to practice skills in a leadership role. This course may be taken for credit up to two semester hours of credit. Freshman and sophomore students enrolled in basic army military science are encouraged to enroll in this course but registration is not required. Mandatory Pass/Fail.

101-1 U.S. Defense Establishment. An examination of the realities of conflict and the U.S. institutional response to conflict. Includes the history, organization, and mission of the U.S. defense establishment and explores the implications of an individual's decision to exercise leadership within the context of the defense establishment.

102-1 or 2 Land Navigation and Traverse. An introduction to land navigation involving the use of the compass, topographic maps, the sun, and prominent stars. Includes terrain traverse techniques such as simple free climbing and rappelling. Competitive compass exercises will also be presented, as well as other outdoor practical exercise.

201-2 Small Group Dynamics and Leadership. Applied leadership in a small group context. Exercises in self confidence, group communications, and leadership evolved from situations where the group is required to function and survive on a self-sufficient basis. Principles of survival and cooperative effort will be explored in depth, with maximum involvement of the student in leadership and problemsolving roles.

202-2 The Military Management System. A study of the military management system including the functional aspect of leadership within the military structure. Includes the presentation of military leadership traits, style, and approaches; managerial techniques, and communications.

258-4 to 12 Leadership Equivalency. Four to six hours experience credit for 101, 102, 201, 202, and six hours of work experience credit for Advanced Camp. This credit will be evaluated by the professor of military science. Prerequisite: satisfactory completion of the academic phase of the six-week field training programs.

301-4 A Study of Organizational Leadership. A multi-faceted approach to the study of leadership in both a military and civilian setting. Emphasis is placed upon human behavior, communication, the individual as a leader, group dynamics, and the military's interface with society. An extensive block on the branches of the army is also presented. Includes leadership laboratory. Prerequisite: credit for six hours of 100 and 200 level courses or 258. Non-army ROTC students may elect Pass/Fail.

302-3 Small Unit Tactics. The student is introduced to small unit tactical operations at the platoon and company level. Offensive, defensive, and retrograde operations are covered in detail. Unit organization and patrolling are also stressed. Practical exercises are conducted in the classroom and in field environments. Prerequisite: credit for six hours of 100 and 200 level courses or 258. Non-army ROTC students may elect Pass/Fail.

358-6 Advanced Leadership Camp. A special six-week field study training program designed to further prepare Army ROTC advanced course students for the basic tasks that will be required of them as junior officers and leaders in the Army. The course is normally conducted at Fort Riley, Kansas, during the summer. Prerequisite: consent of the professor of military science.

401-4 Advanced Leadership and Management. An analysis of selected leadership and management problems in the following military subjects: unit administration at company level emphasizing correspondence; fundamental concepts of military justice in the armed forces of the United States, including the procedures by which judicial and nonjudicial disciplinary measures are conducted; U.S. Army readiness program as it deals with unit maintenance; the position of the United States in the contemporary world scene discussed in the light of its impact on leadership and management problems of the military service; and a fundamental knowledge of the logistical support available to the unit. Leadership development is continued by the application of leadership principles, stressing responsibilities of the leader, and increas-

ing experience through practical exercises. Includes leadership laboratory. Not for graduate credit. Non-army ROTC students may elect Pass/Fail.

402-3 Fundamentals and Dynamics of the Military Team. This course is designed to give the students a working knowledge of the theory and dynamics of the military team. Generally this includes a study of combat operations by the various military teams, with emphasis on the planning and coordination necessary between the elements of the team. The subjects to be presented during this three-hour block of instruction include an understanding of command and staff organization at the battalion level, military intelligence methods and procedures used to obtain the intelligence, and an analysis of the principles used in internal defense and development, emphasizing tactical operations which include civil affairs. Since this course is presented just prior to the commissioning of the cadets, several hours of instruction are presented near the end of the school year on the obligations and responsibilities of an army officer. Leadership laboratory one hour per week. Not for graduate credit. Non-army ROTC students may elect Pass/Fail.

Art (School, Major, Courses)

The major objectives of the School of Art at Southern Illinois University at Carbondale are (1) to provide programs of quality and professional education in art; (2) to provide quality education in general studies; and (3) to contribute to the aesthetic, scholarly, and cultural life of the disciplines in the arts and to society in general. Students at all levels of study are expected to strive for the high degree of excellence that is consistent with the ideals and philosophy of the School of Art.

Undergraduate offerings in art provide both introductory and specialized experiences. The course of study offered, leading to the Bachelor of Arts degree with a major in art, offers the student the opportunity to specialize in drawing, painting, printmaking, sculpture, ceramics, metalsmithing, fibers/weaving, art education, art history, or general studio.

Bachelor of Arts Degree, College of Communications and Fine Arts

A student majoring in art should select one of the following fields of interest by the end of the sophomore year: drawing, painting, printmaking, sculpture, ceramics, metalsmithing, fibers/weaving, art education, art history, or general studio.

ART MAJOR — DRAWING SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in Drawing</i>	(6) + 69
Art 100a, 100b, 107, 110, 120,	
200, 201, 203, 207, 300a, 346.	(6) + 27
Art 204, 205, or 206	3
Art history electives	6
Art 202, 300b, 300c, 301a, 302a,	
or 302b, or 302c, 400a, 400b, 400c	33
<i>Electives</i>	6
<i>Total</i>	120

ART MAJOR — PAINTING SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in Painting</i>	(6) + 69
Art 100a, 100b, 107, 110, 120,	
200, 201, 203, 207, 300a, 346.	(6) + 27
Art 204, 205, or 206	3
Art history electives	6
Art 300b, 300c, 301a, 301b, 301c,	
302a or 302b or 302c, 401a, 401b, 401c	33

<i>Electives</i>	6
<i>Total</i>	120

ART MAJOR — PRINTMAKING SPECIALIZATION

<i>General Studies Requirements</i>	45
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ART MAJOR — PRINTMAKING SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in Printmaking</i> ... (6) +	72
Art 100a, 100b, 107, 110, 120, 200, 201, 203, 207, 300a, 346 ... (6) +	27
Art 204, 205, or 206	3
Art history electives	6
Art 202, 300b, 300c, 301a, 302a, 302b, 302c, 402a, 402b, 402c	36
<i>Electives</i>	3
<i>Total</i>	120

ART MAJOR—SCULPTURE SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in Sculpture</i> (6) +	66
Art 100a, 100b, 107, 110, 120, 200, 201, 203, 207, 346, and 300a, 300b, or 300c..... (6) +	27
Art 204, 205, or 206	3
Art history electives	6
Art 303a, 303b, 403a, 403b, 403c.....	24
Electives from crafts area.....	6
<i>Electives</i>	9
<i>Total</i>	120

ART MAJOR—CERAMICS SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in Ceramics</i> (6) +	69
Art 100a, 100b, 107, 110, 120, 200, 201, 203, 207, 346, and 300a, 300b, or 300c..... (6) +	27
Art 205 or 206	3
Art history electives	6
Art 204, 303a, 304a, 304b, 404a, 404b, 404c, 404d	30
Electives from crafts area.....	3
<i>Electives</i>	6
<i>Total</i>	120

ART MAJOR—METALSMITHING SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in Metalsmithing</i> (6) +	69
Art 100a, 100b, 107, 110, 120, 200, 201, 203, 207, 346, and 300a, 300b, or 300c..... (6) +	27
Art 204 or 206	3
Art history electives	6

Art 205, 303a, 305a, 305b, 405a, 405b, 405c, 405d	30
Electives from crafts area.....	3
<i>Electives</i>	6
<i>Total</i>	120

ART MAJOR—FIBERS/WEAVING SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in</i>	
<i>Fibers/Weaving</i>	(6) + 73
Art 100a, 100b, 107, 110, 120, 200, 201, 203, 207, 346, and 300a,	
300b, or 300c.....	(6) + 27
Art 204 or 205	3
Art history electives	6
Art 202, 206, 306a, 306b, 406a, 406b, 406c, 406d	30
Electives from crafts area.....	3
Cinema and Photography 315	4
<i>Electives</i>	2
<i>Total</i>	120

ART MAJOR—ART HISTORY SPECIALIZATION

<i>General Studies Requirements</i>	49
Art 100a and 207 must be taken as approved substitutes in GSC. 8	
hours of foreign language (French or German) are required, four of	
which will not count toward General Studies Requirements.	
<i>Requirements for Major in Art with Specialization in Art History</i>	(6) + 60
Art 100a, 100b, 107, 110, 120, 201, 203, 207, and	
204, 205, or 206	(6) + 21
Art 217, 346, and 27 hours selected from 307, 317, 329,	
349, 439, 449a, 449b, 447, 457, 467, 477, 487	33
Art electives.....	6
<i>Electives</i>	11
To be chosen from philosophy, history, anthropology, classical	
studies, foreign languages, religious studies, or other courses	
approved by the School of Art	
<i>Total</i>	120

ART MAJOR—GENERAL STUDIO SPECIALIZATION

<i>General Studies Requirements</i>	45
Art 100a and 207 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in</i>	
<i>General Studio</i>	(6) + 66
Art 100a, 100b, 107, 110, 120, 200, 201, 203, 207, 346, and 300a,	
300b, or 300c.....	(6) + 27
Art 204, 205, or 206	3
Art history electives	3
Art electives.....	21
Six hours selected from Commercial Graphics, Cinema and	
Photography, and Design	6
<i>Electives</i>	15
<i>Total</i>	120

**Bachelor of Arts Degree, College of Communications and Fine Arts or
Bachelor of Science Degree, College of Education**

ART MAJOR—ART EDUCATION SPECIALIZATION	
<i>General Studies Requirements</i>	45
Art 100a and 107 must be taken as approved substitutes in GSC	
<i>Requirements for Major in Art with Specialization in</i>	
<i>Art Education</i>	(6) + 50
Art 100a, 100b, 107, 110, 120, 200, 201, 203, 207, 346	(6) + 24
Art 204, 205, and either 202 or 206	9
Art history electives	3
Art electives	4
Art 308, 318, 328a, 338a, 328b or 338b	10
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Total</i>	120

Minor

A total of 21 hours is required for the minor. The student must complete 100a, 100b, 107, and 207 for 12 hours and may then elect studio or art history courses for the remaining nine hours.

Courses

Art Education Courses:	308, 318, 328a, 328b, 338a, 338b, 348, 406, 418, 428, 508, 518
Art History Courses:	107, 207, 217, 307, 317, 329, 346, 349, 419, 439, 447, 449a, 449b, 457, 467, 477, 487, 507, 517
Studio Courses:	100a, 100b, 110, 120, 200, 201, 202, 203, 204, 205, 206, 300, 301, 302, 303, 304, 305, 306, 319, 400, 401, 402, 403, 404, 405, 406, 414, 500, 501, 502, 503, 504, 505, 506, 514
Independent Study Courses:	257, 258, 259, 309, 499, 599, 601

- 100A-3 Two-Dimensional Design.** A fundamental design class dealing with two-dimensional concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgment. Studio fee \$3. Incidental expenses not to exceed \$50.
- 100B-3 Three-Dimensional Design.** A fundamental design class dealing with three-dimensional concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgment. Studio fee \$10. Incidental expenses not to exceed \$30.
- 107-3 Fundamentals of Art.** A study of the language of visual art and its use to communicate through visual media. Critical thinking is developed through visual awareness and the understanding of the universality of visual concepts.
- 110-3 Introduction to Drawing I.** Designed to help the student experience the concepts and processes that constitute the language of graphic expression. The goal is a working understanding of the still life. Studio fee \$3. Incidental expenses not to exceed \$25.
- 120-3 Introduction to Drawing II.** Designed to help the student experience the concepts and processes that constitute the language of graphic expression. The goal is a working understanding of inanimate and animate form in space. Studio fee \$3. Incidental expenses not to exceed \$25.
- 200-3 Introduction to Drawing III.** Concerned with the introduction to various media, compositional devices, spatial investigation, and the human figure. Studio fee \$22. Incidental expenses not to exceed \$25. Prerequisite: 120.
- 201-3 Introduction to Painting.** Emphasizes material, techniques, processes, and ideas fundamental to the discipline of painting. Studio fee \$3. Incidental expenses not to exceed \$50. Prerequisite: 100a, b, 107, 110, 120, 207.
- 202-3 Introduction to Printmaking.** Lectures and films on the basic printmaking processes: relief, intaglio, plano graphic, stencil, and cast paper. Emphasis on studio lab work in relief and intaglio printmaking processes. Studio fee \$30. Incidental expenses not to exceed \$35. Prerequisite for art majors: 100a, b, 107, 110, 120, 207.

202-3 Beginning Sculpture. Emphasizes experience in materials, techniques, processes, and ideas fundamental to the discipline of sculpture. Studio fee \$25. Incidental expenses not to exceed \$25. Prerequisite: 100a, b, 107.

204-3 Beginning Ceramics. Introduction to ceramic forming techniques of hand building and throwing on the potter's wheel. Students will explore traditional methods of ceramic form construction and will develop fundamental building skills through dialogue, projects, and problem-solving experiences. Studio fee \$30. Incidental expenses not to exceed \$15. Prerequisite: 100a, b, 107.

205-3 Beginning Jewelry and Metalsmithing. An introduction to the fundamental skills and technology of jewelry and metalsmithing through practical experience. The properties of the medium will be explored and a survey of the field will be made. Studio fee \$24. Incidental expenses not to exceed \$10. Prerequisite: 100a, b, 107.

206-3 Beginning Fibers. A studio course providing experience in the materials, techniques, processes, and ideas in basic dyed, printed, stitched, and non-loom fibers. Emphasis will be on the expressive use of the two- and three-dimensional qualities of fiber. Studio fee \$50. Incidental expenses not to exceed \$50. Prerequisite: 100a, b, 107.

207-3 Survey of Art History. A selected survey of world art beginning with prehistoric and culminating with contemporary art trends. Special attention will be given to traditional art forms such as painting, sculpture, and architecture, and additional media such as ceramics, metals, and fibers will be discussed.

217-3 Methodology of Art History. Lecture, discussion, and presentation of the research tools of art history, art historical logic and the methods of art criticism.

257-1 to 30 Work Experience. Credit for concurrent or non-structured work performed which is related to the student's educational objective. Credit will be granted by department evaluation. Mandatory Pass/Fail.

258-1 to 30 Work Experience. Credit for past work performed which is related to the student's educational objective. Credit to be granted by departmental evaluation. No grade for past work experience.

259-2 to 15 Transfer Credit. Credit to be given for course work granted by any accredited educational institution or vocational institution. Prerequisite: any work accepted for transfer credit in art must be granted with the approval of the appropriate faculty.

300-9 (3, 3, 3) Intermediate Drawing. (a) Beginning figure drawing, (b) intermediate figure drawing, (c) advanced figure drawing. Studio fee \$22. Incidental expenses not to exceed \$25 for each section. Must be taken in a, b, c sequence. Prerequisite: 200.

301-9 (3, 3, 3) Intermediate Painting. (a) Oil painting emphasizing the figure, (b) aqueous medium emphasized, (c) beginning individual problem solving. Studio fee: for a, \$22; for b and c, \$3. Incidental expenses not to exceed \$50 for each section. Prerequisite: 201; a and b must be taken before c.

302A-3 Beginning Etching Introduction to the basic processes of intaglio printmaking, including etching, aquatint, engraving, and drypoint. Emphasis will be on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$50. Prerequisite: 202 for students specializing in printmaking only.

302B-3 Beginning Lithography. Introduction to the history and basic processes of lithography, including use of stone and plate. Emphasis will be on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$45. Prerequisite: 202 for students specializing in printmaking only.

302C-3 Beginning Silkscreen. Introduction to the basic processes and history of silkscreen; including construction of screen and hand and photographic stencil-making techniques. Studio fee \$40. Incidental expenses not to exceed \$45. Prerequisite: 202 for students specializing in printmaking only.

303-9 (3, 6) Intermediate Sculpture. (a) Studio orientation to tools, techniques, materials, and problems involved in historical and contemporary sculpture. (b) Intensive studio experience with individually assigned problems emphasizing personal solutions. Studio fee \$8 per credit hour enrolled. Incidental expenses not to exceed \$50 for each section. Must be taken in a, b sequence. Prerequisite: 203.

304-6 (3, 3) Intermediate Ceramics. (a) Focuses on structured problems designed to encourage the student to apply basic forming skills experienced at the introductory level. Pottery shapes requiring singular and multiple form components will be investigated and simple glazing techniques will be introduced. (b) Stresses studio problems of a group nature and introduces glaze calculation as both theory and a practical tool. Personal and creative interpretation of assignments; some problems requiring group effort. Must be taken in a, b sequence. Studio fee \$45. Incidental expenses not to exceed \$10 for each section. Prerequisite: 204.

305-6 (3, 3) Intermediate Metalsmithing. (a) Exploration of various processes emphasizing the diversity of the technical possibilities within the discipline of metalsmithing. (b) Emphasis placed on the use of these processes to develop individual styles. Studio fee \$24. Incidental expenses not to exceed \$25 for each section. Prerequisite: 205.

306-6 (3, 3) Intermediate Fibers. (a) Introduction to weaving; simple and floor looms; work in spinning, dyeing, stitching, printing, and non-loom fibers is encouraged. (b) Continued work in weaving and dyeing with emphasis on double weave, sculptural fibers and warp and weft ikat.

Emphasis on personal expression, craftsmanship, and imagery. Studio fee \$50. Prerequisite: 206.

307-3 Ancient Art. A survey of ancient art concentrating on Egyptian, Mesopotamian, Aegean, Greek, Etruscan, and Roman art. Special attention will be given to traditional art forms such as architecture, sculpture, and pottery. Additional art forms will be investigated as they are germane to a particular culture.

308-3 Theories and Philosophies of Art Education. Students develop an understanding of the major issues in art education through examining theories and philosophies of art education. Areas of focus include trends in art education, child development in art, perceptual and psychological development, learning theory, and teaching methods. Requirements include extensive reading and preparation of a major paper. Printing/duplicating fee \$3.

309-3 to 12 Independent Study. To be used by majors in the School of Art to pursue independent research activities. Prerequisite: completion of all foundation courses, 3.0 grade point average, major in the School of Art, and consent of instructor.

317-3 Medieval Art. A survey of medieval art from ca. 250 A.D. to 1400 A.D. Early Christian, Byzantine, Celtic, Carolingian, Attowian, Romanesque, and Gothic architecture, sculpture, and painting will be given, as well as representative examples of the minor arts where germane to a particular culture.

318-2 Curriculum Development in Art Education. Prepares students to organize art resources, materials, and concepts into effective art learning experiences. The focus is on integrating art concepts from art history, aesthetics, criticism, etc., with studio methods and techniques. Requirements include extensive reading, the preparation of a position paper on teaching art, and developing a curriculum document. Printing/duplicating fee \$3.

319-3 Art Studio for Non-Majors. General studio for the non-art major. Incidental expenses will be at least \$10 per semester.

328A-2 Art Education Methods: Elementary. Lecture and studio. Prepares students to teach children the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.

328B-1 Internship Laboratory. Observation and pre-teaching experiences in educational settings.

329-3 19th Century Art. Survey of painting, sculpture, and architecture in Europe from the French Revolution to the end of the century. Includes such major stylistic movements as Neoclassicism, Romanticism, Realism, Impressionism, Post-Impressionism, and the roots of modern art.

338A-2 Art Education Methods: Secondary. Lecture and studio. Prepares students to teach adolescents the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.

338B-1 Internship Laboratory. Observation and pre-teaching experiences in educational settings.

346-3 Survey of 20th Century Art. A survey of the major developments in painting, sculpture, architecture, and other selected areas of the visual arts from the beginning of the 20th century to the present. These developments are examined in relation to the other significant cultural, scientific, and philosophical events of the 20th century.

348-3 Art Education for Teachers. Lecture and studio for non-art majors. Especially applicable to pre-school and K-6 grades. Introduction to uses and applications of art media, approaches to teaching artistic awareness, concept development, creative expression, appreciation, art judgment, and knowledge of our art heritage. Studio fee \$10. Incidental expenses not to exceed \$15.

349-3 Esthetics. General survey of historical and contemporary philosophies of the beautiful with particular emphasis upon their relation to visual works of art and individual student research leading to the organization and presentation of a personal esthetic concept.

400-3 to 30 (6, 6, 3, 3 to 15) Advanced Drawing I. (a) Figure drawing. Not for graduate credit. Prerequisite: 300a, b, c. (b) Individual research. Not for graduate credit. Prerequisite: 400a. (c) Senior seminar and exhibition. Not for graduation credit. Prerequisite: 400b. (d) Independent study in drawing. Prerequisite: for undergraduates, 400b; for graduates, consent of major adviser. Studio fee: for a, \$41, for b, \$3. Incidental expenses may exceed \$50 for each section.

401-3 to 30 (6, 6, 3, 3 to 15) Advanced Painting I. (a) and (b) Individual problem solving with emphasis on technical and conceptual synthesis. Not for graduate credit. Prerequisite: for a, 301a, b, c; for b, 401a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 401b. (d) Independent study in painting. Prerequisite: for undergraduates, 401b; for graduates, consent of major adviser. Studio fee for a and b, \$3. Incidental expenses may exceed \$50 for each section.

402-3 to 30 (6, 6, 3, 3 to 15) Advanced Printmaking I. (a) Advanced techniques in printmaking to include intense work in color printing. Not for graduate credit. Prerequisite: 302, 6 hours. (b) Individual research with emphasis on history, processes, and ideas which lead to the formation of personal content. Not for graduate credit. Prerequisite: 402a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 402b. (d) Independent study in printmaking.

Prerequisite: for undergraduates, 402b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$10 per credit hour enrolled. Incidental expenses may exceed \$50 for each section.

403-3 to 30 (6, 6, 3, 3 to 15) Advanced Sculpture I. (a) Foundry techniques and direct metal fabrication. Not for graduate credit. Prerequisite: 303a, b. (b) Individual research with emphasis on history, materials, processes, and ideas that form personal content. Not for graduate credit. Prerequisite: 403a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 403b. (d) Independent study in sculpture. Prerequisite: for undergraduates, 403b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$8 per credit hour enrolled. Incidental expenses may exceed \$75 for each section.

404-3 to 27 (3, 6, 3, 3 to 15) Advanced Ceramics I. (a) Assigned individual problems with emphasis on ceramic form and glazing. Not for graduate credit. Prerequisite: 304, 6 hours. (b) Individual research with emphasis on kiln theory and design. Not for graduate credit. Prerequisite: 404a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 404b. (d) Independent study in ceramics. Prerequisite: for undergraduates, 404b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$18 per credit hour enrolled. Incidental expenses may exceed \$20 for each section.

405-3 to 27 (3, 6, 3, 3 to 15) Advanced Metalsmithing. (a) Emphasis will be placed on advanced processes to develop individual expression. Not for graduate credit. Prerequisite: 305a, b. (b) Media exploration to develop individual styles. Not for graduate credit. Prerequisite: 405a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 405b. (d) Independent study in metalsmithing. Prerequisite: for undergraduates, 405b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$8 per credit hour enrolled. Incidental expenses may exceed \$75 for each section.

406-3 to 27 (3, 6, 3, 3 to 15) Advanced Fibers I. (a) Individual design problems. Not for graduate credit. Prerequisite: 306b. (b) Individual research with emphasis on the intensive use of fibers as a creative medium. Not for graduate credit. Prerequisite: 406a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 406b. (d) Independent study in fibers. Prerequisite: for undergraduates, 406b; for graduates, consent of major adviser. Studio fee for a, b, and d, \$17 per credit hour enrolled. Incidental expenses may exceed \$75 for each section.

408-2 to 9 (2 to 3, 2 to 3, 2 to 3) Basic Research in Art Education. Each student demonstrates via class presentation, term papers, and answers to exam questions, a knowledge of basic research techniques and applications; important literature in the field of art education; broad research meanings; a theory of art education and material on behavioral objectives presented in class and via tape-slide self instruction programs.

414-3 to 21 Glass I. A studio course designed for the beginning glass student focusing initially upon basic "flat glass" and core working techniques and processes. Coursework includes projects intended to familiarize the student with designing and executing products in stained glass. Student will be introduced to forming techniques in glassblowing. Studio fee \$12 per credit hour enrolled. Prerequisite: consent of instructor.

418-2 to 9 (2 to 3, 2 to 3, 2 to 3) Individual Teaching Methods. Each student demonstrates an understanding of individual teacher-directed self-evaluative teaching methods involving studio projects, teacher-student evaluative sessions, individual projects, lecture-discussions, and a term paper. Incidental expenses not to exceed \$20.

419-3 17th and 18th Century Art. A survey of art in Europe from ca. 1550 to 1880. Architecture, sculpture, and painting will be presented as well as representative examples of the minor arts where germane to a particular style or area.

428-3 Individual Problems in Art Education for Elementary Education Majors. Individual concentration on one studio discipline and its application to preschool, elementary education, early childhood, and special education. Incidental expenses will be at least \$20. Prerequisite: 348a.

439-3 American Art to World War II. A selected study of American art from the Colonial period to 1945. Native American and Hispanic cultures will be touched upon. Attention will be given to traditional art forms such as architecture, sculpture, and painting; however, the rich and varied folk art traditions of America will also be explained.

447-3 Introduction to Museology. A survey of museum and gallery techniques (emphasis upon practical exhibit development) which will involve answering questions concerning contractual agreements, taxes, insurance, packing, shipping, exhibit design and installation, record systems, general handling, public relations, and sale of art works directed toward problems encountered by the artist outside the privacy of the studio. Prerequisite: art major or consent of instructor.

449A-3 Art of the Northern Renaissance. A survey of art in northern Europe from 1300 to 1600. Architecture, sculpture, and painting will be presented as well as representative examples of the minor arts.

449B-3 Art of the Italian Renaissance. A survey of art in Italy from 1250 to 1550. Architecture, sculpture, and painting will be presented as well as representative examples of the minor arts.

457-3 Women in the Visual Arts. (Crosslisted as Women's Studies 427.) Consists of a survey of women's contributions and participation in the visual arts from the middle ages through the

Twentieth century. Through lecture, discussion and research, painting, sculpture, architecture, crafts, film, photography, and other forms of visual art will be covered. Screening fee \$10.

467-3 Critical Issues in Contemporary Art. An examination of the style and meaning of contemporary art in relation to the current political, social, and cultural issues. Will include visual arts, architecture, and communications media.

477-3 American Art of the Thirties. A socio-political and artistic study of American art during the decade of the Great Depression. Course material will be divided in three parts: (a) a survey of art trends during the Thirties concentrating on traditional art forms such as painting, sculpture and architecture, (2) an investigation into government-subsidized art programs, and (3) recent governmental and corporate patronage of the arts through such programs as the National Endowment.

487-3 Special Studies in Italian Renaissance Mural Painting. A study of Italian mural painting from 1250 to 1500. Special emphasis will be placed on the production, historical background, iconography, and patronage of the major narrative cycles of this period.

499-3 21 Individual Problems. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Designed to adapt to students' individual needs in problem research. Prerequisite: senior standing in the School of Art, a 3.0 average, and consent of instructor.

500-3 to 21 **Advanced Drawing II.**

501-3 to 21 **Advanced Painting II.**

502-3 to 21 **Advanced Printmaking II.**

503-3 to 21 **Advanced Sculpture II.**

504-3 to 21 **Advanced Ceramics II.**

505-3 to 21 **Advanced Metalsmithing II.**

506-3 to 21 **Advanced Fibers II.**

507-3 to 6 (3, 3) **Readings in Art History.**

508-2 to 9 (2 to 3, 2 to 3, 2 to 3) **Research in Art Education.**

514-3 to 21 **Glass II.**

517-3 to 6 (3, 3) **Concepts in Art History.**

518-2 to 9 (2 to 3, 2 to 3, 2 to 3) **Seminar in Art Education.**

599-2 to 6 **Thesis.**

601-1 to 12 **per semester. Continuing Research.**

Asian Studies (Minor)

The Asian Studies program includes a variety of courses of the languages, civilizations, and contemporary issues of Asia. The program is intended to prepare a student for a number of career options with Asia interests. Through this program, a student may prepare for more advanced work on another campus, may develop a teaching specialty, or may broaden skills and knowledge which would be useful for professional and occupational interests in Asia.

A minor in Asian studies requires a minimum of 20 hours selected from a list of approved courses. Not more than eight hours may be taken in any one department for credit toward the 20 hours.

A student may major in Asian studies by means of the special major program of the University for the Bachelor of Arts degree. The student in this program has to meet University, General Studies, and the College of Liberal Arts requirements. The student's special major would not be approved unless at least 30 hours selected from a list of approved courses with at least three disciplines included are completed. Students interested in this program are encouraged to take at least two years of an Asian language.

Associate Degree Nursing (Program, Major [Nursing], Courses)

The Associate Degree Nursing program, offered through the Southern Illinois Collegiate Common Market, is developed as an open-curriculum model and is designed to provide career mobility for persons who have completed a practical nursing program or its equivalency through formal or informal methods. Students

will be given an opportunity to validate past experiences through utilization of a comprehensive testing program.

Facilities limit enrollment to twelve full-time students, but since each student has different proficiencies, there is a possibility of openings during the academic year as students complete requirements. In addition to gaining admission to the University, the applicant must demonstrate satisfactory levels of previous nursing skills and knowledge by taking the Psychological Corporation Pre-Entrance Examination for Schools of Nursing and Nursing Achievement Examinations prior to being admitted to the program. Requests for information should be directed to Nursing, School of Technical Careers.

After assessment by the nursing faculty, an individualized prescriptive-type educational program will be developed with each student. Didactic instruction will be implemented mainly through a variety of multi-media teaching techniques with individualized assistance from the nursing faculty. Clinical experience will be gained through various cooperating hospital facilities in a designated geographical area of southern Illinois. Since the students will be traveling to several hospitals, it is essential that they have access to transportation. General education courses will be required in the areas of communication and social studies. The nursing courses follow a unique calendar, consequently the student's schedule will extend beyond the normal semester periods.

Additional expenses of approximately \$500 are required to cover textbooks, the cost of uniforms, the pre-admission examinations, liability insurance, workshops, and other items.

This program is designed to prepare the student for the practice of nursing as defined in the Illinois Nurse Practice Act and meets the requirements for accredited schools in associate degree nursing in Illinois.

Upon satisfactory completion of the program the student will be eligible to write the Illinois State Board Nursing Examination and to become a registered nurse. A registered nurse may be employed in private offices, school systems, hospitals and clinics, nursing homes, industrial health clinics, or other health care facilities.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Nursing

Graduation from an accredited school of practical nursing or equivalent— minimum required transfer of credit.....	26
General Studies: GSA 106, 209, GSB 202, GSD 101, 153	15
Associate Degree Nursing 201, 202, 203, 204, 206, 208, 209, 210, 211, 212, 213, 214	30
Total	71

Courses

201-3 Introduction to Conceptual Framework. Using the individualized modular approach to education, this course introduces the student to the concepts which are the foundation of the nursing curriculum. Emphasis is placed on the exploration and study of basic human needs and the components of the nursing process. Learning opportunities include both theory content and selected clinical experiences. Prerequisite: acceptance into the associate degree nursing program.

202-2 Maternal-Neonate Nursing Interventions. This course is designed to provide the student with greater depth and broader perspectives of the antepartal, intrapartal, and postpartal neonatal periods. A basic understanding of normal reproductive function and birth process will be necessary in order to study the nursing care of pathophysiological conditions. Emphasis is placed upon the family involvement and cultural needs of the child bearing family. Learning opportunities include both theory and selected clinical experiences.

203-3 Psychiatric Nursing Interventions. This course is designed to provide the student with further exploration and study into the concepts of mental health and mental illness. Emphasis will be placed on developing skills in therapeutic communication techniques, principles of psychiatric nursing, interpersonal relationships, and identifying psychosocial

needs of the emotionally ill patient. Learning opportunities include both theory content and selected clinical experiences.

204-2 Neurological Sensory Nursing Interventions. This course is designed to further the student's knowledge of neurological and sensory function and those associated disorders commonly encountered in nursing practice. Emphasis will be placed on the development of neurological assessment skills and the use of the nursing process for care of patients with major neurological and sensory dysfunction. Learning opportunities include both theory content and selected clinical experiences.

206-3 Orthopedic-Dermatological Nursing Interventions. This course is designed to further the student's knowledge of skeletal, muscular, and skin function and those disorders commonly encountered in nursing practice. Emphasis will be placed on assessing, analyzing, planning, implementing, and evaluating nursing care for those patients experiencing disorders associated with joints, bones, muscles, and skin. Learning opportunities include both theory content and selected clinical experiences.

208-2 Metabolic-Endocrine Nursing Interventions. This course is designed to further the student's knowledge in metabolic-endocrine function and those associated disorders commonly encountered in nursing practice. Emphasis will be placed on application of the nursing process in caring for patients experiencing metabolic-endocrine dysfunction. Learning opportunities include both theory content and selected clinical experiences.

209-2 Community Health Nursing. This course is designed to introduce the student to concepts in community health nursing. The student will learn that the health and well-being of citizens in the community is an integral part of nursing. The problem-solving approach will be applied to identify health problems of clients in a variety of community clinical agencies and settings with special emphasis on community resources for special health problems, communicable diseases, problems accompanying disasters, and special problems of senior citizens.

210-3 Cardiovascular Nursing Interventions. This course is designed to provide the student with further study and depth into cardiovascular function and common pathophysiological processes. Emphasis will be placed on the application of the nursing process, health maintenance, and disease prevention. Learning opportunities include both theory content and selected clinical experiences.

211-2 Respiratory Nursing Interventions. This course is designed to provide the student with further study of pulmonary function and principles of pathophysiology pertaining to common respiratory problems. Emphasis will be placed on the application of the nursing process in caring for patients experiencing respiratory restriction or obstruction. Learning opportunities include both theory content and selected clinical experiences.

212-3 Gastrointestinal/Genital-Urinary Nursing. This course is designed to provide the student with further study and depth into gastrointestinal and genital-urinary function and into their associated pathophysiological processes. Emphasis will be placed on assessing, analyzing, planning, implementing, and evaluating nursing care for patients with common gastrointestinal and genital-urinary disorders. Learning opportunities include both theory content and selected clinical experiences.

213-2 Nursing Today and Tomorrow. Leadership in nursing, transition to the new graduate role, and current issues in nursing are the integral components of the terminal course of this program. Students will be given an opportunity to apply their knowledge and nursing skills in a practical experience.

214-3 Pediatric Nursing Interventions. This course is designed to provide the student with specific aspects of growth and development. The nursing process will be utilized to provide nursing care to meet the physical, intellectual, emotional, and social needs of the pediatric patient. Emphasis will be placed on health promotion, family involvement, and cultural needs of the hospitalized child or adolescent. Learning opportunities include both theory content and selected clinical experiences.

Athletic Training (Minor)

(SEE PHYSICAL EDUCATION)

Automotive Technology (Program, Major, Courses)

The fundamental objective of the automotive technology program at the School of Technical Careers is to provide students with an opportunity to obtain a solid foundation of knowledge, experience, and skills that will assist in job entry and career advancement in automotive service.

The automotive service industry has seen, and will continue to experience, rapid changes in technology. Perhaps the greatest changes will occur within the next

decade as more fuel-efficient, less polluting motor vehicles become more commonplace. To service today's vehicles and the vehicles of the future will require highly skilled service technicians who will be skilled in the technologies that have been unknown until just a few years ago. The skills that will be required will be varied and complex and will require service technicians to specialize in certain specific service areas.

This program recognizes the various needs of the industry and the needs of its future technicians and will offer an opportunity to obtain a solid foundation of knowledge and provide flexibility for a student to develop a specialty of the student's choosing.

During the first year, each student will be required to enroll in a series of core courses which will provide the student with the opportunity to obtain and develop those skills and technical information considered essential to all service technicians.

During the second year, the student may choose any four of eight possible areas. In most cases, these courses will deal with advanced instruction in areas covered in the core courses. In each case, however, the student will select the courses and, after completing this work and the general studies requirements, the student will be eligible for the associate degree.

Instruction in the automotive technology program is geared to a thorough presentation of basic fundamental concepts and reinforced with practical applications of those concepts with structured laboratory activities and service and diagnosis of live automobiles. In a vast majority of the courses all units studied will be working or operational units and dynamic testing of the units is an integral part of the course.

Additional expertise is provided to the program through an advisory committee composed of persons chosen for their knowledge of the field and their interest in education. Current members are: Mr. Al Bradshaw, supervisor of service training, Chrysler Motors Corporation; Mr. James F. Lane, zone service manager, Oldsmobile Division, General Motors Corp., Mr. James Racz, DuPage County Highway Department, Mr. Donald Vogler, Vogler Ford, Carbondale, Mr. Harry Wiggs, Carbondale Auto Supply, Mr. Ron R. Schriewer, D.S. engineer, Ford Motor Co., St. Louis, Mo., Neil W. Swartz, American Motors Corp., dealer warranty analyst, and Mr. David Elder, service manager, Jim Pearl, Inc., Carbondale.

The student should expect to spend about \$300 for a basic tool kit consisting of both domestic and metric tools and supplies.

The associate degree can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-instructional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Automotive Technology

GSD 101 and 153	6
School of Technical Careers 102, 105a, 107a,b, 108	10
Automotive Technology 101, 103, 105, 107, 115, 121, 123, 125, 127....	32
Thirty hours of selected 200-level Automotive Technology courses	30
Total	78

Courses

101-4.5 Automotive Engines and Fuel Systems Laboratory. Enables the student to learn the fundamental service techniques and procedures required to service current automotive engines through meaningful hands-on experience on live engines. The student will disassemble laboratory engines, inspect for wear and damage, and reassemble the engine to operating condition according to manufacturer's specifications. The student will also be given specific instruction regarding the adjustment, repair, and diagnosis of carburetors. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 121.

103-4.5 Brakes and Chassis Laboratory. Designed to provide the student with work experience performing various chassis, suspension, and brake services on live vehicles. Complete brake overhaul, front end rebuilding, wheel alignment, and wheel balancing are some of the tasks performed. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 123.

105-4.5 Engine Electrical Laboratory. Allows the student to apply the fundamental theories of electricity to the actual diagnosis and testing of the battery, charging, starting, and ignition systems. Hands-on experience on live and laboratory units is the basic part of this course. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 125.

107-4.5 Drive Trains Laboratory. Provides the student with hands-on experience in diagnosis and repair of the modern vehicle drive line. Service activities such as overhaul procedures for 3, 4, and 5-speed manual transmissions, clutch service, universal joint repair, drive line angle measurement, and complete differential repair will be included. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 127.

115-2 Related Shop Laboratory. Provides the student with an opportunity to learn and perform routine service operations and small repairs that are required of all automotive service personnel. Such topics as thread repairs, fasteners, drill sharpening, broken stud removal, copper and brass fitting identification and fabrication, and basic acetylene welding and brazing are examples of some of the course content. Theory-laboratory will be four clock-hours per week for eight weeks.

121-3 Basic Automotive Engines and Fuel Systems Theory. Explanation of the theory of operation and design characteristics of the four-stroke cycle gasoline engine as well as the basic automotive fuel system and carburetor. The different engine designs, basic carburetion and ignition, horsepower and torque computation, and related systems of engine operation are examples of some of the topics to be covered. Theory will be six clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 101.

123-3 Brakes and Chassis Theory. Provides instruction in the physical laws of hydraulics and pneumatics and their application to the modern brake and steering systems. Included is the study of steering geometry and suspension service procedures. Also covered is brake diagnosis and repair, brake machining, and power brakes. Theory will be six clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 103.

125-3 Engine Electrical Theory. Provides the student with an opportunity to learn the fundamental theories of electricity and to apply these fundamentals in the operation of batteries, cranking motors, solenoids, relays, alternators, generators, regulators, and ignition systems. Special emphasis is placed on meter use and sound diagnostic procedures. Theory will be six clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 105.

127-3 Drive Trains Theory. Deals specifically with the units needed to transmit the power of the automobile from the engine to the rear wheels. Presents to the student such things as clutches, standard transmissions 3, 4 and 5-speed, propeller shafts and differentials, their principles of operation, theory involved, and repair procedures. Included in this course is also basic study of planetary gears and fluid couplings. Theory will be six clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 107.

201-4.5 Automatic Transmission Laboratory. Permits the student to acquire practical experience in the service procedures required on automatic transmissions. Proper disassembly, inspection, measurement, and reassembly will be stressed along with dynamic testing on a dynamometer of the transmissions being serviced. Outside vehicles will be repaired with emphasis on proper diagnosis before repairs are performed. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 121, 107, 127, and concurrent enrollment in 221.

203-4.5 Automotive Power Accessories Laboratory. Assists the student in developing a comprehensive understanding of the diagnostic and repair procedures required of the various comfort options and accessories commonly found on current production automobiles. Diagnosis and repair of automotive lighting systems and dash instrumentation will also be included. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 105, 125 and concurrent enrollment in 223.

204-4.5 Automotive Air Conditioning Laboratory. Provides the student with an opportunity to obtain practical experience in the actual service and diagnostic procedures required of all current air conditioning systems. Service activities presented will consist of all operations required of the refrigeration system including compressor rebuilding and the diagnosis and repair of factory-equipped systems. Laboratory will be 14 clock hours per week for eight weeks. Prerequisite: 105, 125, and concurrent enrollment in 224.

205-4.5 Advanced Fuel and Emission Systems Laboratory. Students will diagnose, overhaul, and adjust the current domestic types of carburetors. Heavy emphasis will be on engine performance testing and diagnosis of engine malfunctions through the use of test equipment such as oscilloscopes and infra-red testers. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 121, 105, 125, and concurrent enrollment in 225.

207-4.5 Advanced Brakes and Chassis Laboratory. Provides the student with the opportunity to acquire practical experience in the actual service of such things as power steering, steering columns, anti-skid brakes, load leveling devices, and total vehicle alignment. Labora-

tory will be fourteen clock hours per week for eight weeks. Prerequisite: 103, 123, and concurrent enrollment in 227.

208-4.5 Advanced Engine Laboratory. Allows the student the opportunity to develop those skills and service techniques that are considered essential to perform quality engine rebuilding. Service operations such as valve refacing, cylinder head, engine block, crankshaft, rod, and piston reconditioning are examples of activities that will be performed on live vehicles scheduled for this purpose. Diagnosis of engine mechanical failures and noises will also be emphasized. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 121, 105, 125, and concurrent enrollment in 228.

209-4.5 Advanced Electrical Systems Laboratory. Designed to provide detailed instruction on the approved service procedures for diagnosis and repair of current ignition, charging, and starting systems. These activities will be performed on live vehicles and laboratory units. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 121, 105, 125, and concurrent enrollment in 229.

210-4.5 Diesel Fuel and Electrical Systems Laboratory. Laboratory enables the student to learn the fundamental service techniques and procedures required to diagnose and service current automotive diesel fuel injection and electrical systems. The student will diagnose and disassemble diesel fuel injection components, inspect for wear or damage, and reassemble to operating condition. Prerequisite: 101, 105, 121, 125, and concurrent enrollment in 230.

221-3 Automatic Transmission Theory. An in-depth study of the current automatic transmissions offered by the major manufacturers. This course deals with the torque converter, planetary gear systems, methods of clutching, and hydraulic controls. Special emphasis will be placed on methods of diagnosis and repair of problems. Oil circuitry will be presented in detail. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 121, 107, 127 and concurrent enrollment in 201.

223-3 Automotive Power Accessories Theory. Allows the student to obtain a sound understanding of the theory of operation of the various electrical accessories and popular comfort options. Examples of units studied are: power windows, power seats, windshield wiper motors, dash instruments, heated rear windows, body lighting and warning buzzer systems. Assisting the student to interpret electrical wiring diagrams will be emphasized. Theory will be six clock-hours per week for eight weeks. Prerequisite: 105, 125 and concurrent enrollment in 203.

224-3 Automotive Air Conditioning Theory. Allows the student to obtain in-depth instruction in the fundamental principles of refrigeration systems which are applicable to all current systems, plus the theory of operation of the various controls used on factory installed units. Such topics as the refrigeration cycle, temperature regulation, anti-frost controls, and air conditioning systems testing are examples of the material studied. Theory will be six clock-hours per week for eight weeks. Prerequisite: 105, 125 and concurrent enrollment in 204.

225-3 Advanced Fuel and Emission Systems Theory. Deals specifically with the theory of operation of most types of carburetors used on domestic automobiles. The emission control systems and laws concerning automotive emission standards will also be a major topic of the course. Proper tune-up procedures to meet emission standards will be studied in detail. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 121, 105, 125, and concurrent enrollment in 205.

227-3 Advanced Brake and Chassis Theory. An in-depth study of brakes and suspension systems to include such topics as power steering, columns, anti-skid brakes, load leveling devices, and total vehicle alignment. Theory will be six clock hours per week for eight weeks. Prerequisite: 103, 123, and concurrent enrollment in 207.

228-3 Advanced Engine Theory. Major emphasis will be on piston, rod, crankshaft, cylinder head, and combustion chamber designs of the modern automotive engine. The student will have the opportunity to apply the principles that are directly related to service operations, diagnosis, and repair of mechanical malfunctions of the engine. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 121, 105, 125 and concurrent enrollment in 208.

229-3 Advanced Electrical Systems Theory. Emphasis will be on operation, diagnosis, and repair of under-the-hood electrical systems. Electronic ignition and charging systems will be studied in detail. Also in-depth instruction will be provided in the operation, diagnosis and repair of starter motors and starter control circuits. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 121, 105, 125, and concurrent enrollment in 209.

230-3 Diesel Fuel and Electrical Systems Theory. Theory provides the student with an opportunity to learn the fundamentals of automotive and light truck diesel fuel injection systems, and electrical systems unique to diesel engine operation. The course consists of theory of operation, design characteristics, diagnosis and service of automotive diesel fuel systems. Theory will be six hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, and concurrent enrollment in 210.

Aviation Technology (Program, Major, Courses)

Skilled technicians are in demand in the aviation industry, both in airlines and

general aviation. The industry demands people who possess a wide range of knowledge and ability provided by general education as well as special technical training.

The student learns reciprocating and jet powerplants, cabin environment and jet transport systems, hydraulics, fuel systems, ignition-starting systems, carburetion and lubricating systems, instruments, and powerplant testing in coordinated classroom and laboratory work. The program is fully accredited by the Federal Aviation Administration. Students who wish to qualify for the FAA airframe and powerplant license are required to take a two-course post-associate specialization.

Instruction is conducted at the Southern Illinois Airport between Carbondale and Murphysboro in a combination laboratory-classroom-hangar facility.

The student should expect to spend about \$250 for a tool kit and special study materials.

Executives in the aviation industry constitute an advisory committee which serves the program. Current members are: Robert R. Bethel, senior engineer, avionics department, McDonnell-Douglas Corp., St. Louis, Mo.; Raoul Castro, manager, aviation department, Marcor, flight operations, Chicago; R. Craig Christie, vice president, marketing, King Radio Corp., Olathe, Kansas; John P. Davis, assistant vice president, maintenance, Delta Air Lines, Inc., Atlanta, Ga.; Roy S. Davis, director, technical services, TWA, O'Hare International Airport, Chicago; Jack Tuitt, captain and flight manager, midwest region, United Air Lines, O'Hare International Airport, Chicago; H. E. Chandler, supervisor, training center, Bell Helicopter Co., Fort Worth, Texas; Joseph Goetz, senior captain, pilot, TWA, Kennedy Airport, New York; Howard D. Gould, management consultant, Personnel and Industrial Race Relations Associates, Chicago; Robert J. Graham, supervisor, production control, American Air Lines, O'Hare International Airport, Chicago; Alfred E. Jordan, vice president, technical affairs, TWA, New York; A. Edward Langhorst, manager, aircraft engine group, Evendale Technical Training School, General Electric Co., Cincinnati, Ohio; C. Steven Nicely, manager, training division, product support, Douglas Aircraft Co., Long Beach, Calif.; William Norwood, captain, United Air Lines, Elk Grove Village; John J. Pitrus, manager, commercial marketing, Pratt and Whitney Aircraft, East Hartford, Conn.; John S. Winter, president, Systron Donner Corporation, Berkeley, Calif.; Frank H. Wood, supervisor, ramp operations department, United Air Lines, O'Hare International Airport, Chicago; and Phillip S. Woodruff, president, Woodruff Aviation.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Aviation Technology

GSD 101, 118, 153.	8
School of Technical Careers 105a.	2
Aviation Technology 110, 111, 112, 113, 203, 204, 205, 210, 211, 212, 214, 215, 216	66
Elective (in social science).	5

Total 81

Courses

- 110-4 Aircraft Structure-Fabrication and Repair.** Students will be able to identify and select materials employed in aircraft construction. Using appropriate FAR's, they will demonstrate competence in repair of honeycomb, fiberglass, welded, wood, or fabric aircraft members. The student will inspect aircraft members for defects and, if necessary, inspect completed repairs for airworthy condition.
- 111-7 Materials and Metal Processing.** Students will be able to identify, select, and inspect aircraft hardware and materials. They will be able to select and apply appropriate cleaning materials and to implement corrosion controls. They will become proficient in the use of precision measurement equipment and related inspection tools. They will be able to make appropriate sheet metal repairs using correct repair procedures, tools, and materials. They will be required to demonstrate correct use and interpretation of structural repair diagrams and correct interpretation of charts and tables from AC 43.13-1 pertaining to materials and methods.

112-4 Aircraft Electricity. Students will have basic knowledge of electricity generation, AC and DC circuitries, and controls. They will be able to solve problems associated with electrical measurement (AC and DC), circuit interpretations and inspection, aircraft electrical load analysis, circuit malfunctions, and circuit or component servicing. They will have as an introduction, a basic knowledge of aircraft electronics.

113-5 Aircraft Instruments and FAR. Students will have a knowledge of operation, installation, marking, and interpretation of synchro and servo systems, aircraft and power-plant instruments. They will be able to install, adjust, and calibrate these instruments in accordance with FAA and manufacturers' recommendations. They will be able to select and use FAA technical and legal publications in order to perform the duties of an aircraft technician. Lecture, 3 hours. Laboratory, 2 hours.

203-5 Aerodynamics and Weight and Balance. Students will have a knowledge of flight theory and factors affecting aircraft in flight. They will explain and compare aircraft design features in subsonic, transonic, and supersonic aircraft. They will be able to assemble and rig various aircraft control systems, analyzing and correcting faulty flight characteristics. Students will fully understand and solve problems of aircraft weight and balance. They will be able to perform weighing, computation of G.G., and establishing of equipment list.

204-4 Hydraulics (Aircraft). Students will have a knowledge of fluid theory and applied physics which relates to aircraft hydraulics. They will know the theory of operation, maintenance requirements, and adjustments of various hydraulic components and systems. They will be able to test, inspect, troubleshoot, and service hydraulic systems and overhaul malfunctioning components in accordance with FAA and manufacturers specifications.

205-5 Cabin Environment and Jet Transport Systems. Students will understand the atmospheric variables at different altitudes and the basic equipment required to cope with malfunction in the cabin pressurization and air-conditioning systems. Using the available information, jet transport aircraft and simulated training panels, they will understand the operation of and be able to identify the components of flight control systems, landing gear, fuel, anti-icing, and fire detection systems. They will be able to compare and analyze aircraft systems of current jet transport aircraft and to diagnose and resolve malfunction problems. They will have knowledge of procedures for aircraft and to diagnose and resolve malfunction problems. They will have knowledge of procedures for aircraft ground handling, APU operation, and system servicing.

210-7 (2, 5) Aircraft Electrical and Ignition Systems. (a) The successful student should have a knowledge of the operation, repair, inspection, and service of small and large aircraft electrical systems, using schematic diagrams and training panels; (b) The successful student should have a knowledge of the operation, repair, inspection, and service of reciprocation and jet powerplant ignition systems and reciprocating starting system. They will be able to time, overhaul, and troubleshoot the various components of each system. Lecture four hours. Laboratory six hours.

211-5 Reciprocating Powerplant. Students will have a knowledge of construction, operation, and timing mechanisms associated with aircraft reciprocating powerplants. They will be able to disassemble, clean, measure, inspect, and reassemble a powerplant to airworthy condition in accordance with appropriate FAA and manufacturers regulations and practices.

212-5 Carburetion, Lubrication, and Fuel. Students will be able to demonstrate their competence in identifying fuel and oil system components and carburetors, understanding the operating principles of each. They will be able to inspect, adjust, troubleshoot, and overhaul these components according to manufacturers and federal regulations. They will be able to identify the grades of aviation fuels and lubricants and understand the characteristics and uses of each.

214-4 Propellers. Students will have a knowledge of the physical laws and design characteristics governing propeller operation. They will be able to identify components, troubleshoot, and adjust fixed and variable pitch propellers. They will maintain fixed pitch propellers, and the governor system for variable pitch propellers in accordance with FAA and manufacturers' standards.

215-5 Powerplant Testing. Students will have an understanding of the correct procedures and precautions to be observed during engine installation, ground operation, and fuel and oil servicing. They will be required to inspect and troubleshoot reciprocating and jet engines for airworthy condition and interpret engine instrument readings to diagnose engine malfunctions.

216-6 Jet Propulsion Powerplant. Students will be able to apply and understand physics laws related to jet powerplants. They will be able to identify and understand the operation of jet engines and their components. They will be able to perform inspection, maintenance repair, troubleshooting, and adjustments of jet powerplants and accessories. They will be able to analyze engine performance and to interpret operational charts, graphs, and tables.

225-6 Aircraft Inspection. Students will be able to perform a 100-hour and an annual inspection of an aircraft. They will demonstrate knowledge of FAR's by checking appropriate AD's, classifying repairs, and pinpointing specific service problems. They will also complete the required maintenance forms, records, and inspection reports required by federal regula-

tions. They will understand and be able to perform inspection under computerized aircraft maintenance programs.

230-6 Powerplant Inspection. Students will be able to perform periodic inspection of powerplants. They will demonstrate their knowledge of FAR and application of FAA ADs', Service Bulletins, and proper use of inspection equipment. They will use knowledge learned in the powerplant curriculum to perform malfunction analysis of powerplant and related systems. Live equipment is used on a return-to-service basis.

301-6 Helicopter Theory and General Maintenance Practices. The student will have in-depth knowledge of rotary wing aerodynamics, main and tail rotor systems, rotor blades, primary and secondary controls, and general maintenance practices to include inspection and nondestructive testing. Prerequisite: Federal Aviation Administration Airframe and Powerplant Technician licenses.

302-10 Helicopter General Maintenance Laboratory. The student will perform general maintenance on rotary wing main rotor systems, tail rotor systems, rotor blades, flight and powerplant controls to include malfunction analysis, tracking, static balancing, rigging, and repair. The student will perform general helicopter inspections and nondestructive testing including magnetic testing, dye penetrant testing, and boroscope inspection. Prerequisite: concurrent enrollment in 301.

304-6 Helicopter Power Train and Inspection. The student will have an in-depth knowledge of the operation, function and inspection of all rotational components of a rotary wing aircraft to include transmission, gear boxes, drive trains, and drive shafts. Prerequisite: 301 and 302.

306-10 Helicopter Power Train Lab. The student will perform all functions of overhaul concerned with rotary wing transmissions, gear boxes, and drive trains. The student will demonstrate skills in disassembly, inspection, reassembly, discrepancy analyzation, vibration analysis, and dynamic balancing. Prerequisite: concurrent enrollment in 304.

Avionics Technology (Program, Major, Courses)

Avionics, or aircraft electronics, is a rapidly growing field requiring highly skilled technicians for work in the development, installation, and maintenance of the sophisticated avionics systems required for effective utilization of modern day aircraft by the aviation industry.

The avionics technician finds opportunities for employment with the airline industry, general aviation, and in aircraft manufacturing, where employees will install, maintain, test and repair airborne communications and navigation systems, airborne radar systems, and related equipment.

The avionics technology program combines resources of either aviation technology and avionics technology or electronics technology and avionics technology. The student has the option of enrolling in the airframe program of aviation technology or the first year of electronics technology at Southern Illinois University at Carbondale or a community college with a program in aviation technology. The second year avionics will be completed at the facilities of the Aviation Technologies Division at the Southern Illinois Airport.

All instruction is programmed in a balanced combination of classroom lecture and actual "hands on" laboratory experience under the supervision of instructors who have extensive experience and expertise in their respective fields.

The student will have courses in basic direct current, alternating current, electrical power systems, airborne, auxiliary power systems, electrical generation and distribution, load transfer, solid state devices, aircraft communications and navigation systems, aircraft radar systems, aircraft flight control and instrumentation systems, aircraft integrated flight systems, UHF transmitters, receivers, and transceiver (including single sideband principles), pulse and microwave systems, antenna types, wave propagation and transmission lines, and Federal Aviation Administration and Federal Communication Commission regulations.

Enrollment in the program is limited, so the prospective student should plan to make application well in advance of the session in which the studies begin.

In addition to regular University tuition and fees, the student is required to purchase basic tool kits and study material at an approximate cost of \$100.

Executives in the aviation industry constitute an advisory committee which

serves the program. The current members are listed under aviation technology and they serve both programs.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community colleges or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

*Requirements for Major in Avionics Technology**

AVIONICS TECHNOLOGY MAJOR — AIRFRAME OPTION*

GSD 101, 118, 153	8
GSB Elective	3
School of Technical Careers 105	2
Aviation Technology 111, 112, 113, 203, 204, 205, 210a.	32
Avionics Technology 232	10
Avionics Technology 233, 234, 235, 236, 237, 238.	32

Total 87

AVIONICS TECHNOLOGY MAJOR — ELECTRONICS AND AVIONICS OPTION*

GSD 101, 118, 153	8
GSB Elective	3
School of Technical Careers 105	2
Electronics Technology 101, 102, 111, 112, 121, 122.	28
Aviation Technology 113	5
Avionics Technology 233, 234, 235, 236, 237, 238.	32
School of Technical Careers 118	2

Total 80

*To meet Federal and industry requirements, the student should plan to take additional 300-level courses offered as a post-associate specialty.

Courses

101-3 Aircraft Systems. An introductory course in aviation primarily designed for the student who has little or no background in aviation, but desires to learn about the aircraft and its systems in use today. The course will cover light, heavy, and rotary wing aircraft found in today's civil fleet.

120-8 Avionics Circuit Analysis. The student will have an understanding of the laws and theories of elementary AC and DC circuits as they apply to avionics, as well as a basic understanding of avionic circuit devices. Various basic circuits and individual components will be analyzed from a theoretical and operational standpoint, utilizing both descriptive and analytical approaches. Lecture eight hours. Prerequisite: concurrent enrollment in School of Technical Careers 105a and 105b or consent of program coordinator.

125-5 Avionics Laboratory I. The student will be able to demonstrate and apply the theory studied in 120. Laboratory ten hours. Prerequisite: concurrent enrollment in 120 or consent of program coordinator.

203-3 Avionics Shop Practices. The student will study avionics installation requirements, layout procedures and equipment location. They will understand repair station certification, regulations, records, and certification of repairmen. Lecture three hours.

204-3 Avionics Shop Laboratory. The student will make and follow installation drawings or layouts. They will use the equipment and tools requirement to perform avionics equipment installations. Given a list of avionics equipment, they will make the installation, perform acceptance check on the equipment, and fill out required records. Laboratory six hours. Prerequisite: concurrent enrollment in 203 or consent of program coordinator.

232-10 Avionics-Electronic Circuits. Designed especially for students who have completed the Aviation Technology Program and wish to enter the Avionics Technology Program for a second major. Theory of operation of diode, practical rectifiers, DC to DC converter and airborne audio amplifier system both tube and transistor. Construction of basic avionic circuits and isolation of malfunctioning components. Perform repairs and testing of transistors and tube and tube type of avionic circuitries. Lecture eight hours, laboratory four hours.

Prerequisite: Aviation Technology 210, Electronics Technology 102 and concurrent enrollment in Avionics Technology 233.

233-5 Aircraft Communication and Navigation Systems Theory. Student will have knowledge of the theory of operation, calibration, and frequency selection of NAY-COM equipment. They will understand transceiver circuitries, closed frequency loop SCR circuits, audio amplifiers, inter-com systems, VOR navigation receivers, VOR converter, glide slope receivers, ADF receivers, and marker beacon receivers. They will be able to use avionics manufacturers maintenance and overhaul manuals and FAA regulations. Lecture five hours.

234-6 Avionics Laboratory II. Students will be able to identify systems components. They will be able to operate and calibrate test equipment. They will be able to troubleshoot and repair communication and navigation equipment, and to perform alignment of transceivers, navigation receivers, VOR converter, ADF receivers and marker beacon receivers. They will effectively perform modification and compliance of Service Bulletins and FAA Directives. Laboratory twelve hours.

235-6 Flight System Theory. Students will have knowledge of operation and installation of aircraft control, navigation, communication, syncro and servo systems. They will be able to determine if a system meets factory and FAA specifications. They will learn to use technical publications. Lecture six hours.

236-5 Avionics Laboratory III. Students will be able to operate, install, adjust, troubleshoot, and repair automatic pilot, automatic stabilization systems, and integrated flight systems. They will be able to install, adjust, and troubleshoot flux gage compass, gyrosyn directional indicator, rate gyros, RMI repeater and attitude gyros. They will be able to use technical publications. Laboratory ten hours.

237-5 Avionics Logic Circuits and Pulse Systems Theory. Students will be able to analyze the use and operation of logic gates, gate expanders, invertors, flip-flops, shift registers, decade counters and operational amplifiers as used in avionics circuits. They will have knowledge of pulse circuits used in distance measuring equipment and ATC transponders. Lecture, five hours.

238-5 Avionics Laboratory IV. Students will be able to locate, identify, troubleshoot, and repair logic circuits used in avionics equipment. They will be able to test, calibrate, troubleshoot, and repair distance measuring equipment and ATC transponders in accordance with manufacturer and FAA Repair Station Guidelines. Laboratory, ten hours.

302-3 Avionics Laboratory V. Students will be able to conduct avionics loan analysis and perform weight and balance problems. Given a malfunction in an avionic system on the aircraft, they will be able to locate the faulty component, and to perform necessary repairs and to return equipment to airworthy status. Laboratory 12 hours.

303-2 FCC Regulations. The student will have knowledge of FCC requirements for aircraft station licenses, aeronautical ground station and operator's licenses. Lecture 4 hours.

304-4 Avionics Radar System Theory. The student will have knowledge of airborne radar system circuits, and understand the theory of operations of radar antenna system. The student will be able to perform installation, system performance check out, circuit adjustment, trouble shooting, and general repair of the airborne radar system.

Biological Sciences (Major)

The biological sciences major consists of courses selected from the Departments of Botany, Microbiology, Physiology, and Zoology. Students selecting biological sciences as their major do not need to take a minor. Besides enrolling in biological sciences courses, students are also required to take courses in chemistry and mathematics. Students should consult their advisers for additional information.

Bachelor of Arts Degree, College of Science

General Studies Requirements	45
Supplementary College of Science Requirements	8
Foreign Languages	(4) + 4
Mathematics 110a,b or 111 (or its equivalent), or 140, or 141 ..	(4) + 1
Chemistry 224, 225	(4) + 3
Requirements for Biological Sciences	40
Physiology 210	5
Biology 305, 306, 307, 308, 309 (any two)	6
Botany 200 and 201, 204 and 205.	8
Microbiology 301, 302	7

Zoology 220 a,b.	8
Biological sciences electives at 400-level	6
<i>Electives</i>	27
<i>Total</i>	120

Bachelor of Science Degree, College of Education

Students planning to obtain their degree in the College of Education must satisfy all the requirements of that college. The requirements in biological sciences will be the same as those in the College of Science. Those students desiring to attain a secondary education teaching certificate must also enroll in Curriculum, Instruction, and Media 468. See Teacher Education Program, page 63.

Minor

A minor in biological sciences consists of a minimum of 24 hours and may be taken in the College of Education, the College of Liberal Arts, or the College of Science. It must include two of the following biology courses: Biology 305, 306, 307 (6 hours), plus 9 hours selected from the following courses: GSA 208, 209, 303, 312, 313; Botany 200, 201, 204, 205; Microbiology 301, 302; Physiology 410a,b; and Zoology 220a,b. The remaining nine hours may be selected from courses offered by the departments of botany, microbiology, physiology, and zoology. A student with a major in one of the life sciences may not take a minor in biological sciences.

Biology (Courses)

Courses

210-2 to 6 Biology Field Studies. A trip of from two to six weeks to acquaint students with organisms in various environments or with methods of field study, collection, and preservation. Students will incur costs for food, lodging, and transportation. Prerequisite: consent of instructor.

305-3 Genetics-Classical and Molecular. Broad principles of genetics, including Mendelism, chromosomal behavior, genetic mapping and mutation, Allelism, genes and development, polygenic systems, inbreeding and outbreeding, and genetic applications.

306-3 Cell Physiology. The basic functions of the cell are considered. The biochemical basis and mechanisms of the cellular processes, the functions of the subcellular structures, and their ramifications will be explored in the context of plant and animal cells.

307-3 Environmental Biology. Broad principles of ecology on the organismic, the population, the community, and the ecosystem level. Includes environmental factors, adaptations, energy and material balance, succession, and human ecology.

308-3 Organismic Functional Biology. Fundamental principles and biological examples of basic phenomena characteristic of organisms, including transport, integration, and reproductive systems. Detailed attention will be given to various organ systems with an emphasis on function.

309-3 Developmental Biology. Principles of development; causal mechanisms, cybernetic and phylogenetic aspects. Lecture course.

315-2 History of Biology. The interrelationships between the development of biological knowledge and the history of the human races.

Black American Studies (Minor, Courses)

Black American studies is a part of the Division of Social and Community Services.

The Black American studies program will plan a program for a special major leading to the Bachelor of Science degree in the College of Human Resources. Any student interested in such a program should consult this catalog for an explanation of the special major, and then contact the academic counselor in Black American studies in order to plan and receive approval for the program.

A minor in Black American studies consists of a minimum of 20 hours which are

to be selected from Black American studies course offerings and organized according to each individual student's field of interest. An official minor is subject to approval by the coordinator of Black American studies.

Courses

209-3 Critical Issues in the Black American Experience. Insights into the Black American experience. Concepts including race, ethnicity, class, caste, minorities, prejudice, discrimination will be analyzed. Main focus is on exploration of critical socio-economic, political, and cultural themes such as demographic trends; migration and urbanization, political participation and strategies, income and employment, housing, health, education, black family, black religion, law, and justice. Prerequisite: GSB or GSC 109 recommended but not required.

225-3 Social Change in Africa. Examination of the interplay between tradition and modernity in an effort to understand the new Africa. Some of the forces of social change are analyzed. Other topics include African women and the family structure in change and the problems of African development.

230-3 Introduction to Black Sociology. An introductory course which focuses on the concepts of Black sociology in order to fill the gaps of "traditional sociology" pertaining to the Black experience. Designed to heighten the student's awareness of the Black identity and the sociological phenomena which affect it and acquaints the student with specific sociological problems in the study of Afro-Americans. Prerequisite: GSB 109.

257-1 Black American Studies Choir. Prerequisite: consent of instructor.

311-6 (3, 3) Black American History. (Same as History 362.) (a) Black American History to 1865; (b) Black American History since 1865. The role of Blacks and contribution in the building of America and the ongoing fight for equality.

314-6 (3, 3) History of Africa. (Same as History 387a,b.) (a) History of Africa. A study of West African peoples from earliest times to the present; including the era of kingdoms; the role of Islam; African-European relations; colonialism; and African nationalism. (b) History of East-Central Africa. A study of East and Central African peoples from earliest times to the present; including migrations and kingdoms; African-Arab-European relations, colonialism, and African nationalism.

320-3 Leaders of the Black World. A study of black rulers; governmental representatives; activists; and thinkers; both past and present; in Africa; the West Indies; and the United States, with emphasis on the effects of their philosophies on the black world.

330-3 Black American Social Problems. Comparative study of the social problems which afflict Black Americans and other minorities and their consequences; including crime and delinquency, mental and emotional disorders, drug addiction, housing conditions, poverty and unemployment, and labor conditions. Prerequisite: consent of instructor.

332-3 Black Americans and the Law. Focuses on the effect of the American legal system upon the Afro-American from slavery to the present; uses theory and knowledge from the law, history and sociology; will explain the historical perspectives of specific laws as well as their effect upon the Afro-American.

333-4 The Black Family. Exploring the myths and realities of the black family from sociological and psychological perspectives through a critical examination of scholarly controversies and research. Prerequisite: junior standing.

336-4 The Black Personality. Examines current areas of interest in the study of the psycho/social characteristics of Black Americans. Theoretical and empirical data will be examined. Considers critical issues as cognitive development; self-concept, socialization process and inter- and intra-group relations. Prerequisite: consent of department.

339-3 Black Americans and the Correctional Process. Analysis of selected topics: the prison community and the Black inmate; correction education and the Black inmate; and the Black professional. Prerequisite: 332.

345-3 Law and Civil Liberties. (See Political Science 332.)

350-3 Contemporary Black Drama. Surveys in the works of major and minor writers of contemporary Black dramas from *A Raisin in the Sun* to *No Place to Be Somebody*. Explores recent criticism on Black theater, and approaches oral and written criticism from the point of view of "Black aesthetics." Prerequisite: GSC 201, GSC 203, or consent of department.

355-3 The Black American Novel Since *Native Son*. The Black American novel and its major themes since Richard Wright's *Native Son*. Includes such authors as Baldwin, Petry, Williams, etc. Prerequisite: GSC 210, GSC 325, junior standing, or consent of instructor.

357-3 Blacks in the Performing Arts. History of the role of blacks in the performing arts covering dance companies, ballet, folk dance and Black dramatists; cinema, in all its forms; radio and television; and music (spirituals, jazz, opera, classics, etc.) Prerequisite: GSC 325, or consent of department.

358-3 Black Theater Workshop. Designed to train students in the arts of the theater. While major emphasis is placed on acting techniques, opportunities for training in makeup design and oral interpretation are also provided.

362-3 The Music of Black Americans. (See Music 372.)

370-3 Bibliography of Black American Studies. An introductory survey of Black American

bibliographic resources course, culminating with students' compilation of a selective, annotated bibliography covering some chosen aspect of the black experience. Prerequisite: junior or senior standing or consent of instructor.

380-2 Regional Geography of Subsaharan Africa. (See Geography 365.)

385-4 Myth and Ritual in Archaic Religion. (See Religious Studies 333.)

391-2 Social Services and Minority Groups. (See Social Welfare 391.)

395-3 Investigative Procedures and Techniques for the Affirmative Action Officer. Designed to provide students with the basic skill of investigating equal employment opportunities and affirmative action complaints that might be filed by one who feels discriminated against in the hiring process and upward mobility within an agency. Study and research of existing cases filed with FEPC and EEOC.

399-3 to 5 Independent Study in Black American Studies. Independent study which examines problems and issues not covered in a specific course. Hours and subject matter decided during consultation with a faculty member. Prerequisite: consent of instructor. Elective Pass/Fail.

430-3 Black Political Socialization. Definitive approach to how people learn about politics focusing on Blacks because of their unique experience; i.e., prolonged minority group status. Research oriented, in that, it takes an explanative and predictive approach to produce models of political learning. Not for graduate credit. Prerequisite: 230, junior or senior standing, or consent of department.

445-3 Race and Politics. (See Political Science 429.) Not for graduate credit.

455-2 to 12 Rehabilitation Services with Special Populations.

465-3 Governments and Politics of Sub-Saharan Africa. (See Political Science 465.)

475-3 Sociological Effects on Black Education. A teacher-oriented course dealing with up-to-date research in Black and minority education. The instructor utilizes the findings of current periodicals to present models for understanding and communicating with Black children. Not for graduate credit. Prerequisite: Education 303 or consent of department.

480-4 to 8 (4, 4) Seminar in Black Studies. Analysis of the black experience directed toward practical contributions in the area studied. Topics vary with instructor. May be repeated once for a total of eight credits provided registrations cover different topics. Topics announced in advance. Prerequisite: GSB 109 or consent of department.

490-1 to 3 Cross-Cultural Rehabilitation. (See Rehabilitation 419.) Not for graduate credit.

499-1 to 5 Special Readings in Black American Studies. Supervised readings for students with sufficient background. Registration by special permission only. Offered on demand. Prerequisite: consent of instructor.

Botany (Department, Major, Courses)

Botany is a broad science that includes many specialties. A major in botany should be considered by those wishing to specialize in teaching and/or research in the plant sciences and related fields.

Students planning to major in botany should consult with the chairperson of the department for information concerning the programs in the department.

As a general rule, students who intend to apply for admission to a graduate school to study for an advanced degree in botany should include the following in their undergraduate program: inorganic and organic chemistry, mathematics through calculus, a modern European language, and as many botany and biology courses as time and scheduling will permit.

An honors program is available to those juniors and seniors in botany who have an overall grade point average of 3.00 or better and an average in botany courses of 3.25 or better. Honors students should enroll in Botany 492 during some semester in both junior and senior years.

Bachelor of Arts Degree, College of Science

<i>General Studies Requirements</i>	45 ¹
<i>Supplementary College of Science Requirements</i>	7
Foreign Language	(4) + 4
Mathematics 110a,b or 111 (or its equivalent), or 140	(4) + 1
Physical Sciences (Not General Studies)	(4) + 2
<i>Requirements for Major in Botany</i>	43-48 ²
Biology 305, 307	6

Botany 200, 201, 204, 205, 304, 320, 335, 337	19
Botany electives (to be selected from Botany offerings excluding Botany 160, 257, 258, 259, 462, 490, 491; and may include up to a total of 6 hours selected from Botany 390, 391, and 492).....	16
Chemistry.....	(6)+ 2-7 ³
Option A: Chemistry 140a,b	
Option B: Chemistry 224, 225, 340, 341	
Electives	20-25
Total	120

¹The 45-hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.
²Botany requirements satisfy the biological and physical sciences requirements for the College of Science and may be substituted for a maximum of 12 hours in General Studies.
³Option B is recommended for those interested in plant physiology or graduate study.

Bachelor of Science Degree, College of Education

Students planning to obtain their degree in the College of Education must satisfy all the requirements of that college. The requirements in botany must total 32 semester hours, including Botany 200, 201, 204, and 205. Those students desiring to attain a secondary education teaching certificate must enroll in Curriculum, Instruction, and Media 468. A minor in zoology is required. See Teacher Education Program, page 63.

Minor

A minor in botany consists of a minimum of 16 semester hours, selected from any botany offerings except 160, 257, 258, 259, 390, 391, 462, 490, 491, or 492.

Courses

For all field courses in botany, students will be assessed a transportation fee. In addition, certain courses may require the purchase of additional materials and supplies, generally \$1 to \$5 in total cost.

160-3 Integrated Science — A Process Approach. An interdisciplinary science course stressing processes of science; observing, classifying, using numbers, measuring, using space-time relationships, communicating, predicting, inferring, defining operationally, formulating hypotheses, interpreting data, controlling variables and experimenting.

200-3 General Botany. An introduction to botany. Emphasis is placed on structure and development and associated physiological phenomena. Consideration also is given to basic aspects of plant genetics, classification, evolution, ecology, and conservation.

201-1 General Botany Laboratory. Exercises in observation and experimentation on plant structure and development and associated physiological phenomena. Prerequisite: 200 or concurrent enrollment.

204-3 Botany — Plant Diversity. An evolutionary approach to the study of major plant groups — algae to flowering plants. Emphasis will be given to practical aspects of various plant groups in relation to people and their environment. Prerequisite: 200 or consent of instructor.

205-1 Botany — Plant Diversity Laboratory. Cytological, anatomical, and morphological study of selected representatives of major plant groups. All labs are coordinated with lectures in 204. One two-hour laboratory per week. Prerequisite: 204 or concurrent enrollment.

257-2 to 8 Concurrent Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in the botany program and to the student's educational objectives may be used as a basis for granting credit in botany. Credit for ongoing work experience must be arranged prior to registration, is sought by petition to the department chairperson via the departmental undergraduate adviser, and requires the approval of the department chairperson, the executive officer of the student's major program if other than botany, and the dean of the College of Science. Mandatory Pass/Fail.

258-2 to 8 Previous Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in the botany program and to the student's educational objectives may be used as a basis for granting credit in botany. Credit for past work experience is sought by petition to the department chairperson via the departmental undergraduate

adviser and requires approval of the department chairperson, the executive officer of the student's major program if other than botany, and the dean of the College of Science. No grade for past work experience.

259-2 to 8 Vocational Education Credit. Formal, post-secondary educational credit earned in a military service or other vocational technical or occupational program and directly related to the student's educational objectives may be used as a basis for granting credit in botany. Credit is sought by petition to the department chairperson via the departmental undergraduate adviser and requires approval of the department chairperson, the executive officer of the student's major program if other than botany, and the dean of the College of Science.

304-3 Plant Classification. Identification of local flora by use of various manuals. Survey of taxonomy and nomenclature. Every semester. Prerequisite: 200 or equivalent.

308-3 Taxonomy of Cultivated Plants. Identification of woody and herbaceous cultivated plants and discussion of their use as ornamentals. Prerequisite: consent of instructor.

320-4 Elements of Plant Physiology. The functions of plants and their relation to the various organs. Two lectures and four laboratory hours per week. Every semester. Prerequisite: 200; organic chemistry or a minor in chemistry.

335-2 Methods in Genetics. Selected organisms and techniques illustrating genetic principle. Two two-hour laboratories per week. Prerequisite: Biology 305 or equivalent.

337-2 Ecology Laboratory. Techniques in vegetation analysis and environmental measurements. One four-hour laboratory per week. Prerequisite: Biology 307 or equivalent.

356-4 Plant Pathology. A study of the nature and control of plant diseases. Fungal and bacterial diseases are stressed. Field crop diseases are emphasized. Two lectures and two laboratories per week. Prerequisite: 200 and 201 or equivalents; 320 recommended.

357-3 Introductory Forest Pathology. A study of the nature and control of tree diseases in forests, nurseries, parks, and streets. Fungal and bacterial diseases are stressed. Two lectures and one laboratory per week. Prerequisite: 200 and 201 or equivalent; 320 recommended.

390-1 to 3 Readings in Botany. Individually assigned readings in botanical literature. Every semester. Prerequisite: consent of departmental chairperson.

391-1 to 4 Special Problems in Botany. Individual laboratory or field work under supervised direction: (a) anatomy, (b) bryology, (c) ecology, (d) morphology, (e) mycology, (f) paleobotany, (g) pathology, (h) photography, (i) phycology, (j) physiology, (k) systematics. Every semester. Prerequisite: consent of departmental chairperson.

400-4 Plant Anatomy. An introduction to cell division, development, and maturation of the structures of the vascular plants. Laboratory. Prerequisite: 200 or consent of instructor.

404-4 The Algae. A phylogenetic approach to the study of algae with emphasis on comparative cytology, morphology, and ecology. Laboratories include a detailed survey of freshwater algae and a general treatment of representative marine forms. Two lectures and two two-hour laboratories per week. Prerequisite: 204 and 205 or consent of instructor.

405-4 The Fungi. A survey of the fungi — their structure, development, relationships, ecological roles, and economic importance. Two lectures and two laboratories. Prerequisite: 204 or equivalent.

406-3 Bryology. Structure, development, and relationships of the liverworts, hornworts, and mosses. Two lectures and one laboratory per week. Prerequisite: 204 or equivalent.

409-3 Field Mycology. The taxonomy, ecology, and distribution of fungi in southern Illinois and environs with emphasis on techniques of specimen collection, preservation, identification, and recognition. Prerequisite: 200; 204 recommended.

410-3 Taxonomy and Ecology of Bryophytes and Lichens. Floristic studies of the moss, liverwort, hornwort, and lichen communities of southern Illinois. Prerequisite: 200 or equivalent, or consent of instructor.

411-3 Morphology of Ferns and Fern Allies. The study of external form, internal structure, and relationships of ferns and fern allies. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

412-3 Morphology of Gymnosperms. The study of external form, internal structure, and relationships of gymnosperms. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

413-3 Morphology of Angiosperms. The study of external form, internal structure, and relationships of the flowering plants. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

414-3 Paleobotany. (Same as Geology 414) The study of external form, internal structure, and relationships of plant fossils. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

421-4 Botanical Microtechnique. Introduction to practical methods of preservation and preparation of plant materials for laboratory and microscopic study. Paraffin and plastic embedding and sectioning techniques, and use of general and histochemical stains stressed. Includes chromosome squashing, whole-mount preparation, photomicrography, and other techniques. One lecture and three laboratories per week. Prerequisite: 200 or equivalent.

425-10 (5, 5) Advanced Plant Physiology. (a) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. (b) Physics of plants;

membrane phenomena; water relations; mineral nutrition. Prerequisite: 320 and consent of instructor.

439-2 Natural Areas and Rare and Endangered Species. Evaluation of the natural area preservation concept with emphasis on how to detect natural areas and methods to preserve them. Emphasis on the rare and endangered species program, its significance, and its methodology. Prerequisite: 304, Biology 307.

440-3 Grassland Ecology. A study of grassland structure and function in relation to various biotic and abiotic factors. Cost of field trips (\$5) and textbooks must be incurred by the student. Prerequisite: 304 and Biology 307 or equivalent.

443-4 Forest Ecology and Reclamation. Soil, climatic, and genetic factors affecting tree distribution and growth in disturbed and natural habitats. Saturday field trips. Prerequisite: 307 or equivalent.

444-4 Analysis and Classification of Vegetation. Includes concepts and analytical methods pertaining to plant community energetics, nutrient dynamics, succession, vegetation classification and niche theory. Laboratory will include the application of these concepts and methods to field situations. Cost of textbooks and travel fee (\$15) must be incurred by the student. Prerequisite: Biology 307 or equivalent.

446-4 Tropical Ecology. Two weeks of marine ecology on the atolls and extensive barrier reef off the coast of Belize, British Honduras, and two weeks of terrestrial ecology at several locations inland. Cost varies yearly. Summer. Prerequisite: advanced undergraduate or graduate standing in one of biological sciences, and concurrent enrollment in Zoology 446.

447-2 to 6 Field Studies in Latin America. Two to six weeks of intensive field work to acquaint students with the flora and vegetation in various environments of Latin America and with ecological and taxonomic field techniques. Cost varies with type of study and location. Transportation cost: \$80. Prerequisite: advanced standing in one of the biological sciences and consent of instructor.

448-3 to 8 Field Studies in the Western United States. Three to six weeks of intensive field work designed to acquaint students with the flora, vegetation, and environments of the Rocky Mountains and adjacent areas. Both ecological and taxonomic field methods are emphasized. Transportation cost (\$100), travel expenses, and textbooks must be incurred by the student. Prerequisite: 304, Biology 307 or equivalents, and consent of instructor.

449-2 Elements of Taxonomy. Principles of taxonomy including historical sketch, phyletic concepts, classical and experimental methods. One lecture and three laboratory hours per week. Prerequisite: 304 or equivalent, or consent of instructor.

450-2 Plant Geography. World distribution of plants related to environmental, floristic, and historical factors. Prerequisite: interest in biology.

451-4 Upland Flora. The taxonomy, ecology, and distribution of the natural vegetation in and around upland habitats of the Mississippi Basin. Prerequisite: 304 or GSA 303 or consent of instructor.

456-2 Advanced Plant Pathology. A study of the changes occurring in host and pathogen at the host-parasite interface before, during, and after penetration. Control measures will be discussed and emphasis will be on midwest field crops. Two lectures per week. Prerequisite: 356 or consent of instructor.

457-2 Advanced Forest Pathology. A survey of recent literature on major forest diseases with emphasis on host-parasite interactions and disease control. Students will develop detailed literature reviews on selected pathology problems and design experiments for solving these problems. Two lectures per week. Prerequisite: 357 or consent of instructor.

460-3 Application of Statistical Techniques in Botanical Research. Techniques of data handling and graphical representation, use of statistical tests, design of experiments and interpretation of results, and preparation of scientific papers. Students will choose individualized projects in the greenhouse, laboratory, field, computing center, or library. Two lectures per week plus conferences on projects. Prerequisite: ten hours in botany or equivalent.

462-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Curriculum, Instruction, and Media 427.) Specifically designed to develop those cognitive processes and concepts needed by elementary teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

484-3 Palynology. (See Geology 484.)

485-2 Botanical Literature. A survey of the major classical and modern writings in the botanical sciences. This includes a consideration of the primary subdivisions; systematics, structure, physiology, genetics, and ecology. In addition, periodicals will be treated. Prerequisite: consent of instructor.

490-3 Photographic Methods in Scientific and Biological Photography. Black and white and color. Specimen photography, macrophotography. Slides for presentation, materials and methods used in scientific publications. Prerequisite: consent of instructor.

491-3 Scientific Illustration. Materials and methods used in illustrating scientific publications including two-dimensional graphs, maps, lettering, and line drawings. Three dimensional techniques will also be covered. Prerequisite: consent of instructor.

492-2 to 6 Honors in Botany. Individual research problems available to qualified juniors and seniors. Prerequisite: consent of department chairperson.

- 500-3 Advanced Plant Anatomy.
- 503-10 (5, 5) Advanced Angiosperm Taxonomy.
- 524-2 Advanced Plant Genetics.
- 525-3 Cytology.
- 526-4 Cytogenetics.
- 532-3 Embryogenesis and Organography of Plants.
- 533-3 Plant Growth and Morphogenesis.
- 534-2 Techniques in Studies of Plant Growth and Development.
- 535-2 Energetics of Aquatic Ecosystems.
- 542-2 Biosystematics.
- 543-2 Tree Growth.
- 551-3 Upland Flora.
- 552-3 Lowland Flora.
- 570-2 to 3 Graduate Readings in Botany.
- 580-1 to 6 (1 per semester) Seminar.
- 584-3 Advanced Palynology.
- 585-2 to 6 (2 per semester) Advanced Topics in Systematics.
- 589-1 to 12 (1 per topic per semester) Seminars in Botany.
- 590-1 to 3 Introduction to Research.
- 591-2 to 9 Research.
- 599-2 to 9 Thesis.
- 600-1 to 36 (1 to 12 per semester) Dissertation.
- 601-1 to 12 per semester Continuing Research.

Business Administration (Major [Graduate only], Courses)

The graduate faculty in business administration, consisting of members of the Departments of Accountancy, Administrative Sciences, Finance, and Marketing of the College of Business and Administration, offers graduate work leading to the Master of Business Administration degree. The MBA program has as its objective the development of professional managers and executives to serve the needs of business and government and to prepare interested graduates for doctoral study. The program has been structured with flexibility so as to serve holders of baccalaureate degrees in business administration as well as those who hold degrees in other disciplines. For a more complete description of the program, refer to the Graduate Catalog.

Courses

- 410-3 Financial Accounting Concepts. (Same as Accounting 521). Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset, liability, and equity valuations; and income determination is stressed. Prerequisite: Enrollment in MBA program or consent of department.
- 430-3 Business Finance. An introductory course combining both a description of the structure of business financing and an analysis of functional finance from a managerial viewpoint. Prerequisite: enrollment in MBA program or consent of department.
- 440-3 The Management Process. Analysis of management theories and the administrative process. Specific managerial activities are analyzed and discussed. Functional relationships in administered organizations are explored. Prerequisite: enrollment in MBA program or consent of department.
- 450-3 Introduction to Marketing Concepts. An overview of the role of marketing within an economic system and of the major marketing activities and decisions within an organization. Emphasis is on developing an understanding of the marketing process. Prerequisite: enrollment in MBA program or consent of department.
- 451-5 Methods of Quantitative Analysis. (See Mathematics 457.)
- 500-3 Research Applications in Business and Organizations.
- 501-3 Operations Research I.
- 502-3 Business in Our Capitalistic Society.
- 510-3 Managerial Accounting and Control Concepts.
- 511-3 Accounting Theory.
- 512-3 Auditing Concepts.
- 513-3 Accounting Concepts in Business Organizations.
- 514-3 Controllorship.
- 515-3 Accounting Information System Concepts.
- 516-3 Tax Concepts.

- 519-3 Seminar in Accounting.
- 521-3 Business Conditions Analysis.
- 526-3 Managerial Economics.
- 530-3 Financial Management.
- 531-3 Advanced Financial Management.
- 532-3 Financial Institutions and Markets.
- 533-3 Investment Concepts.
- 534-3 Financial Decision Making.
- 536-3 Advanced Financial Analysis.
- 539-3 Seminar in Finance.
- 540-3 Managerial and Organization Behavior.
- 541-3 Operations Research II.
- 543-3 Personnel Management.
- 544-3 Production-Operations Management.
- 545-3 Organization of Complex Systems.
- 546-3 Leadership and Managerial Behavior.
- 549-3 Seminar in Administration.
- 550-3 Marketing Management.
- 551-3 Product Strategy and Management.
- 552-3 Advanced Marketing Research and Analysis.
- 555-3 Consumer Behavior.
- 556-3 Marketing Strategy for Organizations.
- 558-3 Promotional Theory and Strategy.
- 559-3 Seminar in Marketing.
- 571-3 Mission and Domain Analysis.
- 572-3 Forecasting and Decision-Making Models.
- 573-3 Planning Systems and Strategic Decisions.
- 574-3 Advanced Research Methods in Business Administration.
- 580-3 International Business Operations.
- 591-3 Independent Study.
- 598-3 Business Policies.
- 599-3 to 6 Thesis.
- 600-1 to 24 (1 to 16 per semester) Dissertation.
- 601-1 to 12 per semester Continuing Research.

Business and Administration (Major)

The Bachelor of Science degree program with a major in business and administration is a college-wide degree which is intended for those students with personal and professional goals which cannot be met by one of the existing majors, i.e., accounting, administrative sciences, business economics, finance, or marketing, available in the college and in addition have an interest in subject areas offered in other schools and colleges of the University. The program requires students to combine interests — business with an outside field — into a unique program. For example, a student with international business interest can combine business and administration with foreign languages; a student interested in going into the restaurant business can combine course work in food and nutrition with business and administration. The outside field, or secondary concentration, would have to be consistent with a specific career objective or personal development plan and at least 15 semester hours must be structured to achieve this objective. Individual programs would be subject to the approval of the dean of the College of Business and Administration.

Bachelor of Science Degree, College of Business and Administration

<i>General Studies Requirements</i>	45-46
<i>Professional Business Core (See page 61)</i>	47-48
<i>Requirements for Major in Business and Administration</i>	15-23
Secondary concentration approved by the dean	
<i>Electives</i>	3-13
<i>Total</i>	120

Business Economics (Major)

The business economics major offered through the College of Business and Administration emphasizes the application of economic concepts and the use of critical analysis to the solution of economic and managerial problems.

This undergraduate program is an excellent general preparation for future managerial and staff assignments in a variety of business and public organizations. The program also prepares students for graduate study in economics as well as for the Master of Business Administration (MBA) degree.

Those students who desire professional careers as business and managerial economists are advised to plan to complete one to four years of postgraduate study.

Bachelor of Science Degree, College of Business and Administration

<i>General Studies Requirements</i>	45-46
<i>Professional Business Core (See page 61)</i>	47-48
<i>Requirements for Major in Business Economics</i>	15-18
Economics 315, 340, 341	9
Finance 474 or 475	(3) ¹
Three courses from the following list, two of which must be in economics	6-9
Economics 310, 330, 329, 436, 443, 465, 467	
Accounting 331, 341, 471	
Administrative Sciences 345, 352, 361	
Finance 323, 325, 480	
Marketing 341, 390, 435	
<i>Electives</i>	8-13
<i>Total</i>	120

¹Hours shown in parentheses are already included in total of hours shown for professional business core.

Business Education

(SEE VOCATIONAL EDUCATION STUDIES)

Chemistry and Biochemistry (Department, Major [Chemistry], Courses)

The Department of Chemistry and Biochemistry offers three degree programs with a major in chemistry. The first is the Bachelor of Science degree in the College of Science. This degree is for those who wish to prepare for graduate study in chemistry or who will become professional chemists. Students completing this degree program will be certified by the American Chemical Society.

The second is the Bachelor of Arts degree in the College of Science. This program is designed primarily for students who wish to complete a major in chemistry, but who plan to eventually go into other professional areas such as medicine, dentistry, or business.

The third program of study leads to the Bachelor of Science degree in the College of Education. This degree program is administered by the College of Education. It

is provided for those students who wish to become secondary school chemistry teachers.

Among the new professions which have arisen because of the increasing complexity and interdisciplinary nature of scientific and technological problem solving is that made up of chemists whose interests are in management, marketing, and production rather than research and development. Students who recognize an early interest in a combined chemistry and business career can plan their programs around the Administration Option. This is a cooperative program between the Department of Chemistry and Biochemistry and the College of Business and Administration. For further information contact the department chairperson or undergraduate adviser.

Candidates for admission to degree programs are required to have a 2.0 grade point average in chemistry courses. However, students with grade point averages in chemistry courses below 2.25 can expect to have difficulty in advanced courses.

A knowledge of German and of computer programming is recommended for all majors in chemistry.

Students taking a laboratory course will be required to purchase a notebook or a laboratory exercise book costing from \$1.50 to \$8.50. All students enrolled in a chemistry class that includes a laboratory session will be assessed a breakage charge for all glassware broken. The amount assessed will be based on actual replacement costs.

Bachelor of Science Degree, College of Science

CERTIFIED BY THE AMERICAN CHEMICAL SOCIETY

<i>General Studies Requirements</i>	45 ¹
<i>Supplementary College of Science Requirements</i>	5
Foreign Language (German)	(4) + 4
Mathematics 110a,b or 111	(4) + 1
Biological Sciences (not general studies)	(6) ¹
<i>Requirements for Major in Chemistry</i>	63
Chemistry 224 and 225 or 222a,b; 226, 344 and 345; 346 and 349; 462a, b; 434; 411; and 490. In addition, two courses from among 436; 446; 450 (451a,b may be substituted for 450 but will count as only one course); 416; 455; 471; and 491, but at least one must be from among 436, 446, 450 (with laboratory). The total hours must be at least 48	(3) + 45
Mathematics 150, 250, 251, 305	14
Physics 205a,b and 255a,b	(4) + 4
German 126a,b	(8) ²
<i>Electives</i>	7
<i>Total</i>	120

¹The 45 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.

²Russian or French may be substituted with departmental permission.

Bachelor of Arts Degree, College of Science

<i>General Studies Requirements</i>	45 ¹
<i>Supplementary College of Science Requirements</i>	5
Foreign Language	(4) + 4
Mathematics 110a,b or 111	(4) + 1
Biological Sciences (not general studies)	(6) ¹
<i>Requirements for Major in Chemistry</i>	53-57
Chemistry 224 and 225 or 222a,b; 226; 344 and 345 plus 346 and	

349; either 462a,b or 460; 434; plus additional courses to give a minimum of 34 hours	34-38
Mathematics 150, 250, and 251 or 305 (251 is prerequisite to Chemistry 462a,b)	11
Physics 205a,b and 255a,b ²	8
<i>Electives</i>	13-17
<i>Total</i>	120

¹The 45 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.

²Certain other courses may be substituted with permission of the department.

Bachelor of Science Degree, College of Education

<i>General Studies Requirements</i>	45 ¹
<i>Requirements for Major in Chemistry</i>	40-47 ²
Chemistry 224 and 225 or 222a,b; 226; 344 and 345 plus 346 and either 347 or 349; 462a,b or 460	(4) + 23-30
Mathematics 111 or 110a,b, 150, 250 and 251 or 305 recommended (251 is prerequisite to Chemistry 462a,b)	(4) + 12
Physics 203a,b and 253a,b or 205a,b and 255a,b	(3) + 5
Modern foreign language recommended	
<i>Professional Education Requirements</i>	28
See Teacher Education Program, page 63. Secondary education majors must take a special methods course. Curriculum, Instruction and Media 468 fulfills this requirement.	
<i>Electives</i>	0-7
<i>Total</i>	120

¹Refer to Professional Education Experience for General Studies courses which may be required.

²Chemistry majors must complete a minor in mathematics. Students wishing to qualify for teaching mathematics in the secondary schools should take, in addition, Mathematics 311, or 319 and 319e, or 352 and 352e.

Minor

The minor in chemistry requires a minimum of 16 semester hours including 222a,b or 224 and 225. Elective courses must be selected with at least one course in each of two different areas of chemistry. Recommended courses are 226, 340 and 341, 460.

Courses

115-3 Introductory General Chemistry. A preparation for 222a or 224 for students without a year of high school chemistry or for those who feel their background is inadequate. The course concentrates only on those skills immediately necessary to begin work in 222a or 224. It does not serve as a one-semester course in chemistry that can substitute for 140a or GSA 106. Prerequisite: one year of high school algebra or the equivalent.

140-8 (4, 4) Chemistry. A two-semester course of general, organic, and biological chemistry designed to meet the needs of students of nursing, dental hygiene, physical therapy, other allied health programs, agriculture, forestry, home economics and other majors with comparable requirements. This course does not satisfy prerequisite requirements for other courses offered by the Department of Chemistry and Biochemistry. It is not applicable to a major or minor in chemistry. Three lectures and one three-hour laboratory per week. Must be taken in a,b sequence.

222-8 (4, 4) Introduction to Chemical Principles. For students majoring in scientific, preprofessional, engineering, or technological programs. Atomic structure, molecular structure and bonding, stoichiometry, properties of gases, liquids and solids, thermodynamics and kinetics, chemical equilibria, pH, electrochemistry. The content of this two semester sequence is equivalent to the one semester offering of 224 plus 225. Two lectures, one laboratory-lecture recitation, and one three-hour laboratory per week. Must be taken in a,b sequence. The student will need a calculator with log and inverse log capability (base 10 or base e). Prerequisite: one year of high school chemistry; or 115; two years of high school algebra or concurrent enrollment in GSD 107.

224-5 Introduction to Chemical Principles. For students majoring in scientific, preprofes-

sional, engineering, or technological programs. Atomic structure, molecular structure and bonding, stoichiometry, properties of gases, liquids and solids, thermodynamics and chemical equilibria, pH, electrochemistry. Four lectures and one recitation per week. The student will need a calculator with log and inverse log capability (base 10 or base e). Prerequisite: one year of high school chemistry, or 115, and concurrent enrollment in 225; two years of high school algebra or GSD 107. The 225 corequisite may be waived for students in those departments where 225 is listed as a required course for graduation.

225-2 Introduction to Laboratory Techniques. For students majoring in scientific, preprofessional, engineering, or technological programs. Introduction to laboratory apparatus and techniques. One three-hour laboratory and one hour of laboratory-lecture per week. Prerequisite: one year of high school chemistry, or 115, and concurrent enrollment in 224.

226-5 Introduction to Quantitative Chemical Principles. Introduction to quantitative chemical determinations. Two lectures, one laboratory-lecture recitation, and two three-hour laboratories per week. A reasonable knowledge of logarithms and algebra is assumed. The student will need a calculator with log and inverse log capability (base 10 or base e). Prerequisite: 222b, or 224 plus 225. Elective Pass/Fail.

340-4 Survey of Organic Chemistry. A basic survey course of organic chemistry. This course does not satisfy the prerequisite requirement for Chemistry 450 or 451. Four lectures per week. Prerequisite: 222b, or 224 plus 225. Concurrent enrollment in 341 is recommended.

341-2 Organic Chemistry Laboratory. One three-hour laboratory and one laboratory-lecture per week. Prerequisite: 222b, or 224 plus 225. Concurrent enrollment in 340 is recommended.

344-4 Organic Chemistry. A fundamental introduction to the chemistry of carbon compounds designed for chemistry, and other science majors; premed and pre dental students, engineers, and others ultimately requiring a year of organic chemistry. Four lectures per week. Prerequisite: 222b, or 224 plus 225. Concurrent enrollment in 345 is recommended.

345-2 Laboratory Techniques. Physical techniques and reactions of inorganic and organic compounds. One three-hour laboratory and one laboratory-lecture per week. Prerequisite: 222b, or 224 plus 225. Concurrent enrollment in 344 is recommended.

346-2 Organic Chemistry. The organic chemistry of compounds of biological interest with emphasis on the mechanistic, structural, and stereochemical approach to organic chemistry. Two lectures per week. Prerequisite: 344 and 345. Concurrent enrollment in 347 or 349 is recommended.

347-3 Laboratory Techniques. A laboratory course for preprofessionals and those wanting a minor in chemistry. Synthesis and reactions of compounds of biological interest. One laboratory-lecture and two three-hour laboratories per week. Prerequisite: 344 and 345. Concurrent enrollment in 346 is recommended.

349-3 Laboratory Techniques. A laboratory course for chemistry majors. Synthesis and structural identification of inorganic and organic compounds, with emphasis on instrumental procedures. One laboratory-lecture and two three-hour laboratories per week. Prerequisite: 344 and 345. Concurrent enrollment in 346 is recommended.

375-1 to 2 Undergraduate Seminar. For juniors and seniors with a major in chemistry. Prerequisite: consent of the department chairperson.

396-4 (2, 2) Chemical Problems. Chemical investigations under the direction and supervision of a faculty member. Prerequisite: consent of instructor and four semesters of chemistry laboratory.

411-3 Intermediate Inorganic Chemistry. Fundamentals of inorganic chemistry, covering bonding and structure, coordination compounds, and the chemistry of some familiar and less familiar elements. Three lectures per week. Prerequisite: 460 or 462a or concurrent enrollment in either.

416-3 X-Ray Crystallography. (See Geology 416.) Prerequisite: 224 and 225, or 222b, one year of college physics and Mathematics 150.

431-4 Environmental Analytical Chemistry. Practical applications of common instrumental and wet methods to the determinations of chemical substances in common natural and commercial materials. Techniques will include titrimetry; quantitative transfer of liquids and solids; gas, thin-layer and ion-exchange chromatography; atomic absorption; flame photometry; ion selective electrode potentiometry; and spectrophotometry. The course is intended for senior-level and graduate students in disciplines other than chemistry who desire to know the practical aspects of laboratory measurements. The course is not applicable to a major in chemistry. One lecture, one laboratory-lecture, and two three-hour laboratories per week. Prerequisite: 224 and 225, or 222a,b or nine hours of chemistry excluding general studies courses. Elective Pass/Fail.

434-4 Instrumental Analytical Chemistry. Theory and practice of modern instrumental measurements, including emission and absorption spectroscopic, electroanalytical, and chromatographic methods, and an introduction to applied electronics. Two lectures and two three-hour laboratories per week. Prerequisite: one semester of physical chemistry or concurrent enrollment in 462a or 460.

436-3 Analytical Separations and Analyses. A study of the analyses of complex materials, usually inorganic, with emphasis on separations, functional-group chemical analyses, and instrumental applications. Two lectures and one three-hour laboratory per week. Prerequisite: 226 and one semester of physical chemistry which may be taken concurrently.

- 446-4 Qualitative Organic Analysis.** A systematic study of the separation and identification of organic compounds. Two lecture and six hours of laboratory per week. Prerequisite: 226 and either 346 and 349 or consent of instructor.
- 450-3 or 4 Survey of Biochemistry.** Chemistry, function, and metabolism of amino acids, proteins, enzymes, carbohydrates, lipids, and nucleic acids. For students desiring a terminal, one-semester survey of biochemistry. Three lectures per week for 3 credits. Students desiring laboratory experience register for 4 credit hours in an appropriate laboratory section; one laboratory per week. Prerequisite: 346 and biological science.
- 451-6 (3, 3) Biochemistry.** (a) Chemistry and function of amino acids, proteins, and enzymes; enzyme kinetics; chemistry, function and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a,b sequence. Prerequisite: one year of organic chemistry.
- 455-4 Biochemistry Laboratory.** Modern biochemical laboratory techniques for isolation, purification, and characterization of constituents of living cells and for investigations of pathways, kinetics, energetics, and regulatory mechanisms related to metabolism and enzymic activity. One lecture and eight hours of laboratory per week. Prerequisite: 451a and 226 or concurrent enrollment; graduate standing in the Department of Chemistry and Biochemistry or consent of the instructor.
- 460-4 Principles of Physical Chemistry.** A one-semester course in physical chemistry designed especially for non-chemistry majors. Not for those who intend to be professional chemists. Three lectures and one three-hour laboratory per week. Prerequisite: 226 and Mathematics 150, 140 or 141. Elective Pass/Fail.
- 462-10 (5, 5) Physical Chemistry.** Four lectures and one three-hour laboratory per week. (a) Classical thermodynamics and its applications, statistical thermodynamics, and chemical kinetics. (b) Quantum mechanics of atoms and molecules, molecular spectroscopy. The laboratory work includes the analysis of data, computational techniques, and typical chemical measurements. Prerequisite: (a) 226, Mathematics 251; (b) 462a, Mathematics 305 recommended. Must be taken in a,b sequence.
- 471-2 Industrial Chemistry.** A survey of modern industrial chemistry and an introduction to chemical research processes. Two lectures per week. Prerequisite: 346 and 347 or 349.
- 472-6 (3, 3) X-Ray Crystallography.** (See Engineering Mechanics and Materials 402.) Prerequisite: 462b and 463b.
- 489-1 to 3 Special Topics in Chemistry.** Prerequisite: consent of instructor and of chairperson.
- 490-2 Chemical Literature.** A description of the various sources of chemical information and the techniques for carrying out literature searches. Two lectures per week. Prerequisite: 224, 225, 346 and 347 or 349.
- 491-2 History of Chemistry.** The evolution of chemistry from ancient times until 1920. Two lectures per week. Elective Pass/Fail.
- 496-1 to 8 Undergraduate Research (Honors).** Introduction to independent research under the direction of a faculty member culminating in a written report. Not for graduate credit. Prerequisite: a 3.0 grade point average, five semesters of chemistry laboratory including one semester of physical chemistry, consent of instructor and department chairperson.
- 502-2 Molecular Orbital Theory.**
- 511-6 (3, 3) Advanced Inorganic Chemistry.**
- 519-2 to 9 (2 to 3 per semester) Advanced Topics in Inorganic Chemistry.**
- 531-3 Theory of Chemical Analysis.**
- 532-3 Analytical Chemistry Instrumentation.**
- 535-3 Advanced Analytical Chemistry.**
- 539-2 to 9 (2 to 3 per semester) Advanced Topics in Analytical Chemistry.**
- 541-3 Organic Structure and Reactivity.**
- 542-3 Mechanistic Organic Chemistry.**
- 543-3 Synthetic Organic Chemistry.**
- 549-2 to 9 (2 to 3 per semester) Advanced Topics in Organic Chemistry.**
- 556-1 to 7 Advanced Biochemistry.**
- 559-1 to 12 (1 to 3 per semester) Selected Topics in Biochemistry.**
- 560-3 Introduction to Quantum Chemistry.**
- 562-6 (3, 3) Advanced Molecular Spectroscopy.**
- 563-3 Quantum Mechanics of Radiation and Particles.**
- 564-3 Statistical Thermodynamics.**
- 569-2 to 9 (2 to 3 per semester) Advanced Topics in Physical Chemistry.**
- 594-2 or 3 Special Readings in Chemistry.**
- 595-1 Advanced Seminar in Chemistry.**
- 597-1 to 15 Professional Training.**
- 598-1 to 50 (1 to 12 per semester) Research.**
- 599-1 to 6 Thesis.**
- 600-1 to 30 (2 to 12 per semester) Dissertation — Doctoral.**
- 601-1 to 12 per semester Continuing Research.**

Child and Family (Major, Courses)

The child and family program is a part of the Division of Human Development.

Bachelor of Science Degree, College of Human Resources

CHILD AND FAMILY MAJOR — PRESCHOOL PROGRAMS SPECIALIZATION

These courses offer basic background leading to positions as nursery school director or teacher in private schools, colleges and universities, and day care centers; director or teacher in residential living facilities for exceptional children; child care specialists with social, public health and welfare agencies; home economics extension specialist in child care; and recreational leaders.

<i>General Studies Requirements</i>	45
Including GSB 202, 203, 212, GSD 152	
<i>Requirements for Major in Child and Family</i>	36
Child and Family 227, 237, 337, 345, 346, 366, 445,	
456, 466, 471-6	33
Food and Nutrition 100	3
<i>Electives</i>	39
Recommended for Preschool Directors and Teachers: Child and Family	
340, 408, 490; Botany 390; Curriculum, Instruction, and Media 455,	
453; Art 348; Physical Education 202; Special Education 400; Psy-	
chology 301; Music 303, Human Development 481a.	
Recommended for Child Care Specialists in Social Services:	
Psychology 305, 459; Social Work 375, 383, 391; Family Economics	
and Management 340, 341, 370; Interior Design 131; Special Educa-	
tion 400; Sociology 426; Child and Family 408, 490, Human Develop-	
ment 481a.	
Recommended for Residential Life Directors and Supervisors:	
Health Education 334; Special Education 400, 401, 402, 403; Com-	
munication Disorders and Sciences 104, 316; Music 302; Recreation	
300; Social Work 375, 383; Psychology 301, 451.	
Recommended for Infant Care Specialists: GSA 115, 214, 302; GSB	
321; Child and Family 457; Health Education 334; Psychology 301.	
<i>Total</i>	120

Bachelor of Science Degree, College of Human Resources

CHILD AND FAMILY MAJOR — PRESCHOOL/EARLY CHILDHOOD CERTIFICATION SPECIALIZATION

The preschool/early childhood certification specialization has been designed to prepare future teachers of children under six in private or state approved settings. This program is jointly offered with the Department of Curriculum, Instruction, and Media in the College of Education and will lead to early childhood certification by the State of Illinois. Students wishing to teach public school kindergarten are directed to the K-3 specialization program offered in curriculum, instruction, and media.

There are sequential steps for admission and retention in the Preschool/Early Childhood Certification specialization.

1. Completion of Child and Family 240, 245, and Curriculum, Instruction and Media 209 with a grade of C or higher, an overall grade point average of 2.15, and favorable vote of the Preschool Committee based on the student's performance in the above courses.

2. To be eligible for field experience, a student must have attained a minimum overall grade point average of 2.25, successfully completed Child and Family 240, 245, 227, 237, 337, 345, 456, 466; Curriculum, Instruction and Media 209, 317, 318; Special Education 400 and 412; must have made preliminary application for field experience; and be approved by the coordinator of the early childhood/preschool program based on performance in the above courses. Applications for field experience must be submitted to 116D Quigley Hall within the first two weeks of the semester during which the student enrolls in Curriculum, Instruction, and Media 318.

<i>General Studies Requirements</i>	45
Including GSB 202, GSB 212 or 300 or 301; GSC 100 and an art class; GSD 117 or 119; GSE 201 and Physical Education activity class.	
<i>Requirements for Major in Child and Family</i>	70
Child and Family 227, 237, 240, 245, 337, 345, 456, 466, 471-8 ¹	31
Curriculum, Instruction, and Media 209, 213, 317, 318, 418, 419, 435	21
Food and Nutrition 100	3
Music 303	3
Psychology 301	3
Special Education 400, 412	6
Speech Communication 444	3
<i>Electives</i>	13
Selected to meet general education requirements for certification	
<i>Total</i>	128

¹During the field experience semester a student may enroll in Child and Family 471 and no more than six additional hours of credit or two additional courses. A four hour block of time is required each day during the field experience semester. Morning placements are to be expected and planned for. Child and Family 471 must be supervised by the coordinator for field experience.

Students wishing further enrichment in special education should contact their adviser for a list of recommended courses.

Minor

A minor in child and family is intended to provide background that will assist students in pursuing their career goals or other interests. At least 16 hours of Child and Family courses are required as follows:

Child and Family 227, 237	6
Other Child and Family courses	10

Students will be expected to honor prerequisites in their selection of courses.

Courses

See also Human Development for additional 400 and 500-level courses.

227-3 Marriage and Family Living. A study of relationships and adjustments in family living, designed largely to help the individual. To help student better understand the recent changes that have occurred in marriage and the family in the United States.

237-3 Child Development. Principles of development and guidance of children as applied to home situations. Directed observation involving children of varying ages. Understanding the social, emotional, physical, and intellectual development of children.

240-2 Survey of Careers in Preschool Programs. A survey course to acquaint students with the varied career opportunities, approaches to programming, and professional personnel in working with children under six. Field trips will be taken to area program centers. To be taken concurrently with 245 and Curriculum, Instruction, and Media 209.

245-3 Interpersonal Relationships Seminar. This course is designed with emphasis on realization of one's own potential in wholeness of life pattern and relationships as preparation for work with children, parents, and professional peers. To be taken concurrently with 240 and Curriculum, Instruction, and Media 209.

337-3 Advanced Child Development. Examines the specific behaviors of both parents and

teachers to determine the effect they have on the development of children's desirable and undesirable behavior. Prerequisite: 237.

340-3 Instructional Materials and Activities for the Preschool. Provides opportunities to acquire a working knowledge of the purposes of the various types of preschool centers; the roles of the personnel; basic teaching skills; curriculum areas, including objectives, activities, and evaluation; and basis for parent-teacher communication.

345-3 Child Development Practicum. Observation and participation in the guidance of preschool children in the daily routines, preparation and use of materials and equipment for activities. Two hours lecture, three hours laboratory. Interaction and involvement with preschool children. Prerequisite: 237.

346-3 Child Development Practicum. Planning and executing a variety of experiences for preschool children. Three hours seminar, three hours laboratory. Development of skills in preschool management and curriculum development. Prerequisite: 345.

366-3 Family Development. Study of changing patterns in family living throughout the family life cycle. Insight into common current family problems typical of each stage of the family life cycle. Prerequisite: 227 or GSB 341.

408-3 to 9 (3, 3, 3) Workshop. Designed to aid workers in professions related to child and family. Emphasis for the workshop will be stated in the announcement of the course.

410-3 Human Sexuality. Provides detailed in-depth information on such topics as philosophical views of sexual behavior, sex techniques, sex therapy, sexual variations, sexual anatomy and physiology, including the sexual response and changes with age and sexual development in childhood.

445-3 Administration of Pre-School Programs. Planning and organizing programs for preschool or residential facilities including budgeting, staffing, programming, and evaluation. Prerequisite: 345 and 346 or consent of instructor.

456-3 Infant Development. Current theories and knowledge concerning growth and development of infants with related laboratory field experiences. Prerequisite: 237 or Psychology 301 or equivalent.

457-3 Infant Stimulation and Care. Application of theories in infant development in care and stimulation practicum. Development of competencies and skills needed by infant specialists and professionals. Two hours seminar, four hours practicum. Prerequisite: 456 or concurrent enrollment.

466-3 Practicum in Parent-Child Study. Designed to increase student's ability to work with parents and parent groups through an awareness of factors in the parent-child relationship and knowledge of current research and methods in parent education. Integration with infant and child development laboratories and related field experience. Prerequisite: 227, 237, or equivalent.

471-2 to 8 Field Experience. Supervised learning experiences in community nursery schools and public agencies. Eight hours maximum for students enrolled in preschool certification specialization, only. Other students limited to an enrollment of six hours maximum. Prerequisite: consent of instructor.

490-3 Introduction to Marriage and Family Counseling. Problems and techniques of premarital, marital, divorce, family, and family crisis counseling. Counseling individuals singly, in family units, and in groups. Prerequisite: 227 or equivalent and consent of instructor.

556-3 The Pre-School Child.

562-3 Child Development through Home and School.

566-3 Interpersonal Relationships within the Family.

Cinema and Photography (Department, Major, Courses)

The major in cinema and photography provides the undergraduate student with experience and background in the history, theory, and practice of cinematic and photographic communication and expression. The program is structured to make available a foundation for professional, fine arts, and educational careers in cinema and photography; to explore the social, critical, and ideological implications of still and motion pictures; and to provide opportunities for study of and experimentation with both cinema and photography as media for communication and personal expression.

The major requires a minimum of 38 hours in cinema and photography coursework, including the required courses in the department. Students may tailor coursework selection to meet specific areas of emphasis: cinema production, cinema studies, fine arts photography, professional photography, photojournalism.

Students are urged to declare their major and areas of emphasis as soon as possible. To be admitted to the major, a student must have a grade point average of

C or better. In order to remain in the major, each student must maintain an overall grade point average of at least a *C* and at least a *C* average for all cinema and photography coursework. Grades below *C* in cinema and photography courses will not be accepted as fulfilling minimum major requirements. Cinema and photography courses in which students have received grades of *D*, *F*, *AU*, or *INC* may not be used to satisfy prerequisite requirements for other cinema and photography courses. Coursework in cinema and photography is not available to majors on a Pass/Fail basis, unless designated as mandatory Pass/Fail.

Courses in cinema and photography have limited enrollment, especially advanced courses. Not all courses are offered each semester. Admission to certain cinema and photography courses is restricted, and permission must be obtained prior to registration. Permission to register for some courses is based upon submission of photographic portfolios or films. Students are encouraged to plan their course scheduling well in advance to ensure necessary prerequisites and fulfillment of major requirements.

Students may design their own programs of study within the requirements for graduation. The department recommends that students choose an area of emphasis to give a sense of direction to their studies. Students interested in cinema production are encouraged to enroll in 355, 356, 360, 368, 452, 455 and 456 or 499, 470b, and nine hours of cinema history courses; cinema studies, 355, 356, 360, 368, 460, 461, 462, 463, 464, 468, 470a, and 499; fine arts photography, 310, 311, 320, 322, 401, 402, 420, 421, 422, 423, 425, and 470c; professional photography, 310, 311, 320, 322, 401, 402, 403, 405, 406, 407, 408, 415, and 418; photojournalism 310, 311, 320, 322, 407, 408, 418, and Journalism 300, 310, and 311.

Cinema and Photography 499 or its equivalent is required of all majors who have not completed 320 and 322 and optional for others. This senior thesis will consist of the preparation of a photographic portfolio, film, screenplay, research or critical paper under the supervision of a cinema and photography faculty member. A copy of the thesis is to be provided for the department by the student.

Students with an interest in cinema studies may earn credit toward their Southern Illinois University at Carbondale degree by studying at the Inter-University Center for Film and Critical Studies in Paris. Information about this program is available from the department.

Students provide photographic materials for all cinema and photography production courses. In still photography production courses, students supply their own film, photographic paper, certain specialized chemicals, and a fully adjustable 35mm or 120 roll film camera. Some students have found that owning additional items of equipment is advantageous. A cost of \$15 for laboratory materials is charged for each still photography production course in which the student enrolls. In cinema production courses students provide their own film, processing, recording materials, and editing supplies. In courses which involve the screening of a number of films, there is a \$10 screening fee.

The University reserves the right to retain examples of the work of each student in each photography class, to make and retain prints of all films made as part of course work other than senior thesis, and to retain copies of student papers. Such photographs, films, or papers become part of a permanent departmental collection.

No more than nine hours from a combination of the following courses may count toward the first 38 hours in the cinema and photography major: 470, 491, 495, 497.

Electives, required for the major in cinema and photography, are defined as coursework outside the minimal General Studies requirements and not offered for major credit in the department. There is no required minor.

Bachelor of Arts Degree, College of Communications and Fine Arts

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Cinema and Photography</i>	38-54

Either Cinema and Photography 310 and 311 or 360 and 368	6
Either Cinema and Photography 320 and 322 or 355 and 356	8
Cinema and Photography courses numbered 400 to 499	24
Must include 499 or its equivalent if 320	
and 322 have not been taken.	
Cinema and Photography electives	0-16
<i>Electives (Cinema and Photography courses will not be counted).....</i>	<i>21-37</i>
<hr/>	
<i>Total.....</i>	<i>120</i>

Courses

257-1 to 12 Work Experience. Used to recognize concurrent structured and unstructured work experience related to the student's educational objective. One to 30 hours of credit in 257 and 258 may be applied toward graduation requirements following departmental evaluation and approval. Prerequisite: consent of the department.

258-1 to 12 Work Experience. Used to recognize past work experience related to the student's educational objective. One to 30 hours of credit in 257 and 258 may be applied toward graduation requirements following departmental evaluation and approval. No grade for prior work experience.

259-1 to 12 Technical Subjects. Used to recognize credit in cinema and photography earned in art, technical or trade schools above the high school level. One to 12 hours of credit may be applied toward graduation requirements following departmental evaluation and approval of the credit.

310-3 History of Still Photography. History, aesthetics and appreciation of still photography. Covers the period from 1839 to World War II. Students purchase texts. Elective Pass/Fail.

311-3 Contemporary Photography. Uses, styles and influences of contemporary still photography. Covers the period from World War II to the present. Students purchase texts. It is strongly recommended that 310 be taken prior to 311. Elective Pass/Fail.

315-4 Basic Photography for Art Students. Specifically designed to meet the needs of art students. The class will explore basic photographic technique, deal with camera vision and the way it relates to other media, and attempt to cover the special problems and areas of investigation that the art major will encounter. 315 will not be accepted as a substitute for 320 in the cinema and photography program and is not open to students who have completed 320. \$15 laboratory charge. Elective Pass/Fail.

320-4 Basic Photography. Introduction to photographic communication. Basic camera controls, black and white film and print processing, the use of 35 mm and large format cameras. Students purchase texts and provide photographic materials and chemicals. Each student must have available a fully adjustable camera. \$15 cost for additional laboratory materials. Elective Pass/Fail.

322-4 Color Photography. Theory, techniques and aesthetics of color photography. Production of color prints and transparencies. Students purchase texts and provide photographic materials and chemicals. Each student must have available a fully adjustable camera. \$15 cost for additional laboratory materials. Prerequisite: 320 and consent of department. Elective Pass/Fail.

355-4 Film Production I. Basic techniques for filmmaking. Production of Super 8 motion pictures. Students purchase texts, film stock and processing. Screening fee. Elective Pass/Fail.

356-4 Film Production II. Techniques of 16mm double system sound film production. Production of films by individuals or crews. Students purchase texts, film stock, processing and sound materials. Screening fee. Prerequisite: 355 and consent of department. Elective Pass/Fail.

360-3 Film Analysis. The relationships among structure, style and meaning in all types of films. Screening fee. Students purchase texts. Elective Pass/Fail.

368-3 Introduction to Cinema Theory. A survey of cinema theories propounded by figures such as Munsterberg, Arnheim, Eisenstein, Bazin, Kracauer, and important modern theorists. The course covers the wide range of major attempts to derive the essence of cinema. Films that exemplify or raise theoretical issues are screened. Screening fee. Students purchase texts. Elective Pass/Fail.

401-3 Large Format Photography. Introduction to the aesthetics and techniques of large format (sheet film cameras) photography with emphasis on personal expression and commercial/professional applications. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 322 or concurrent enrollment and consent of department. Elective Pass/Fail.

402-3 Sensitometry. An advanced course dealing with the technical and visual applications of the black and white process. Explores the zone system, density parameter system, and

practical chemistry. Also deals with the visual application of these systems. \$15 cost for additional laboratory materials. Prerequisite: 322.

403-3 Studio Portraiture. History, theory and practice of formal studio portrait photography. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

405-3 Commercial/Industrial Photography. History, theory and practice of commercial and industrial photography. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

406-3 Advertising/Illustrative Photography. History, theory and practice of photography as used for advertising, illustration and editorial purposes. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 405 and consent of department. Elective Pass/Fail.

407-3 Publications Photography I. History, theory and practice of photographic news reporting with emphasis on production and design of picture stories and essays. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

408-3 Publications Photography II. History, theory and production of picture essays, including research, lay-out, captions and text. Black and white and color. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 407 and consent of department. Elective Pass/Fail.

415-3 Technical and Scientific Photography. History, theory and application of photographic research methods in science, technology and medicine. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

418-3 Documentary Photography. Survey of the history and theory of documentary still photography. Production of documentary photographic essays dealing in depth with an aspect of contemporary life. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

420-3 Experimental Camera Techniques. Experimental approaches to the creation of photographic images in the camera. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

421-3 Experimental Darkroom Techniques. Experimental darkroom manipulations of the straight camera image. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

422-3 Advanced Color Photography. Advanced study and production of color photographs with emphasis on experimental techniques using Dye Transfer, Kwik Proof and other forms of photo-mechanical reproduction. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

423-3 Reconstruction of Color. A study of the principle of color separation in photography as it relates to the processes of dye transfer, silkscreening, lithography, letter press, etching, and other reproduction processes. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322. Elective Pass/Fail.

425-3 to 9 Studio Workshop. An intensive workshop focusing on current trends in photography as a fine art. Students provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 322 and consent of department. Elective Pass/Fail.

452-3 Film Planning and Scripting. Analysis of both scripted and non-script films. Script as a basis for production. Practice in preparing film plans, treatments, storyboards and scripts. Students purchase texts. Prerequisite: 355 and/or consent of department. Elective Pass/Fail.

454-3 Graphic/Animated Film Production. Practical course for visual expression related to the graphic film; symbology, composition kinestasis, animation, typography, color and materials. Students purchase texts and materials. Screening fee. Prerequisite: 355 and either 465 or consent of department. Elective Pass/Fail.

455-3 Film Production III. Advanced production by individuals or crews of 16mm sound films from pre-production through shooting. Intensive study of budgeting, production planning, scripting, casting, location and studio shooting techniques, equipment rental, lighting, and double system sound filming. Students provide film stock, processing and sound materials. Screening fee. Prerequisite: 356, 452 and consent of department. Elective Pass/Fail.

456-3 Film Production IV. Continuation of 455 through editing and post production to a first answer print. Intensive study of editing, sound mixing, laboratory procedures and distribution problems. Students provide expendable editing and sound materials and are responsible for laboratory costs. Screening fee. Prerequisite: 455 and consent of department. Elective Pass/Fail.

- 460-3 History of the Silent Narrative Film.** Study of the theatrical film from its beginning to 1930. Screening fee. Students purchase texts. Elective Pass/Fail.
- 461-3 History of the Sound Narrative Film: 1927-1945.** Study of the theatrical sound film from its beginnings to 1945. Screening fee. Students purchase texts. Elective Pass/Fail.
- 462-3 History of the Documentary Film.** Study of the development of the non-fiction film with emphasis on the documentary. Screening fee. Students purchase texts. Elective Pass/Fail.
- 463-3 History of the Experimental Film.** Study of experimentation in cinema from the turn of the century, through the avant garde periods, to contemporary independent films. Screening fee. Students purchase texts. Elective Pass/Fail.
- 464-3 History of the Contemporary Film.** Study of the major movements in theatrical motion pictures from neo-realism to the present. Screening fee. Students purchase texts. Elective Pass/Fail.
- 465-3 History of the Animated Film.** Study of the history, techniques, and aesthetics of the graphic/animated film. Students purchase texts. Screening fee. Elective Pass/Fail.
- 468-3 Advanced Cinema Theory.** An intensive study of the major cinema theoretical approaches that center upon the writings by Eisenstein, Bazin, and recent sign and system scholars. Films important to or exemplary of the theories are screened. Screening fee. Students purchase texts. Prerequisite: 368. Elective Pass/Fail.
- 470-1 to 9 (1 to 9, 1 to 9, 1 to 9, 1 to 9) Advanced Topics.** An advanced course concentrating on special topics in cinema and photography. Topics vary and will be announced in advance. (a) Advanced studies in cinema history/theory; (b) Advanced studies in film production; (c) Advanced studies in photography; (d) Advanced studies in interdisciplinary topics. Not more than 6 semester hours may be counted for graduate credit. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. A screening fee or a \$15 fee for laboratory materials may be required. Prerequisite: consent of department.
- 491-1 to 9 Individual Study in Cinema or Photography.** Research in history, theory or aesthetics. Usually taken 3,3,3. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Prerequisite: consent of department. Elective Pass/Fail.
- 492-1 to 3 Practicum.** Practical experience in the presentation of photographic theory and procedures. Does not count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.
- 495-1 to 12 Internship in Cinema or Photography.** Credit for internship with professional film or photographic units. Not more than 9 semester hours of 470, 491, 495 and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.
- 497-1 to 9 Projects in Cinema or Photography.** Individual or crew projects in motion picture production or still photography. Usually taken 3,3,3. Additional laboratory materials costing \$15 required for still photography projects. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Prerequisite: consent of department. Elective Pass/Fail.
- 499-4 Senior Thesis.** Preparation of a portfolio, film, research or critical paper under the supervision of a cinema and photography faculty member. Normally taken during last term in residence, the senior thesis is evaluated by the departmental faculty. The department will retain one copy of all theses. Additional laboratory materials costing \$15 required for still photography projects. Students interested in producing a film for 499 should have completed 355, 356, 360, 368, 452, and nine hours of cinema history courses. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.
- 591-1 to 6 Individual Study in Cinema and Photography.**
- 595-1 to 4 (1, 1, 1, 1) Graduate Seminar.**
- 597-1 to 16 MFA Projects.**
- 598-1 to 6 MFA Final Creative Project.**
- 601-1 to 12 per semester Continuing Research.**

Clothing and Textiles (Major, Courses)

The clothing and textiles program is a part of the Division of Comprehensive Planning and Design. Students take selected courses to fulfill the common core content areas in the Division of Comprehensive Planning and Design.

Students majoring in clothing and textiles may specialize in either apparel design or retailing. A double specialization is available for students with broader interests and goals, and a special major may be planned with approval of the division director. Requirements for a minor in clothing and textiles are also shown.

Bachelor of Science Degree, College of Human Resources

CLOTHING AND TEXTILES MAJOR — APPAREL DESIGN SPECIALIZATION

This specialization is intended for the student interested in professional preparation in apparel design or allied design positions in either industrial or commercial fashion businesses. The courses available to the student cover textile information, fashion design, and skills required for developing original designs into patterns and completed garments. Courses in clothing and textiles are complemented by ones in art, business, and other areas in order to provide a suitable background for various career opportunities.

<i>General Studies Requirements</i>	45
GSA 106	3
GSB 202, 211	6
<i>Requirements for Major in Clothing and Textiles with Apparel Design Specialization</i>	70
Comprehensive Planning and Design Core Requirements	
GSC 205, Comprehensive Planning and Design 306, 406a, b	(3) ¹ + 6
Clothing and Textiles 127-3, 150, 304, 310, 314A, 314B, 328, 351, 352, 414, 416, 418, 428, 460 or 462	43
Art 100-6, 110, and art history	12
Professional electives	9
Choose from the following: accounting, art, chemistry, clothing and textiles, finance, interior design, journalism, marketing, psychology, or other approved courses.	
<i>Electives</i>	5
<i>Total</i>	120

¹GSC 205 also meets a requirement in General Studies.

CLOTHING AND TEXTILES MAJOR — RETAILING SPECIALIZATION

This specialization prepares the student for a profession in retail stores, either as buyers or department managers. Other related retailing positions are also available to students who complete the retailing specialization. The courses available to the student cover textile information, fashion merchandising, marketing, and other business-related courses.

<i>General Studies Requirements</i>	45
GSA 106	3
GSB 202, 211	6
<i>Requirements for Major in Clothing and Textiles with Retailing Specialization</i>	69-70
Comprehensive Planning and Design	
Core Requirements GSC 205; Comprehensive Planning and Design 306, 406a; Art 100a, Design 150 or Interior Design 131	(3) ¹ + 7-8
Clothing and Textiles, 150, 304, 341-2, 343, 349, 351, 352, 405, 442 plus 3 more hours	29
Accounting 210 or 220	3
Administrative Sciences 301 or 304 or Psychology 320 or 323	3
Electronic Data Processing 217	3

Marketing 304, 363, 401, plus 3 more hours	12
Professional electives	12
Choose from the following: chemistry, clothing and textiles, finance, interior design, journalism, marketing, psychology, or other approved courses.	
<i>Electives</i>	5-6
<hr/>	
<i>Total</i>	120

¹GSC 205 also meets a requirement in General Studies.

CLOTHING AND TEXTILES MAJOR — DOUBLE SPECIALIZATION

This double specialization prepares the student for professional positions calling for either apparel design or retailing backgrounds, and the student will also be prepared to assume professional responsibilities calling for a blend of these, for example, a business which both designs apparel and sells it to the ultimate user.

<i>General Studies Requirements</i>	45
GSA 106	3
GSB 202, 211	6
<i>Requirements for Major in Clothing and Textiles with Double Specialization</i>	96
Comprehensive Planning and Design Core Requirements	
GSC 205, Comprehensive Planning and Design 306, 406a, b	(3) ¹ + 6
Clothing and Textiles 127-3, 150, 304, 310, 314A, 314B, 328, 341-2, 343, 349, 351, 352, 405, 414, 416, 418, 428, 442, 460 or 462	57
Accounting 210 or 220	3
Administrative Sciences 301 or 304 or Psychology 320 or 323	3
Art 100-6, 110, any art history	12
Electronic Data Processing 217	3
Marketing 304, 363, 401, plus 3 more hours	12
<hr/>	
<i>Total</i>	141

¹GSC 205 also meets a requirement in General Studies.

Minor

A minor in clothing and textiles is intended to provide background that will assist students in pursuing their career goals or other interests. A minor in clothing and textiles must have approval of the program coordinator. At least 16 hours of clothing and textiles courses are required as follows:

104 or 304	2-4
150 or 351 or 352	2-3
Other clothing and textiles courses	9-12

Courses

Proficiency examinations are available for Clothing and Textiles 104, 127, and 150. Students will be expected to purchase their own materials in some of the courses offered in clothing and textiles.

104-2 Basic Textiles. Emphasis on recognition of fabrics and weaves, suitability, care, and maintenance, especially household textiles. Credit cannot be earned for 104 after receiving credit for 304.

127-1 to 5 Clothing Construction. Basic clothing construction laboratory utilizing personal-

ized self-instruction methods. Use of machine; pattern alteration; fabric preparation; garment construction. Maximum of three hours per semester; initial registration cannot be for one hour. Elective Pass/Fail.

150-2 Survey of Clothing. Multidisciplinary overview of study of clothing. Course will include aesthetic, cultural, economic, psychological, and social aspects. Elective Pass/Fail.

304-4 Textiles. Presentation of aspects of textiles having an influence on properties and performance of textile end-products such as apparel and home furnishings. Characteristics of fibers, yarns and fabrics will be discussed, and other factors such as manufacturing methods of and legal constraints on the textile industry will be mentioned. Lecture and laboratory. Prerequisite: GSA 106.

310-3 Fashion Design-Styling. Original designs for male and female apparel and accessories using various media. Designs based on various sources of inspiration. Prerequisite: Art 200.

314A-3 Flat Pattern Making and Drafting. Fitting basic tissue or muslin and making sloper; making styles through flat pattern manipulation and drafting; testing and refining patterns to provide perfect fit. Prerequisite: 127.

314B-3 Draping. Application of design principles to dress; making garment form; refining patterns draped in muslin. Garments constructed of fashion fabric. Prerequisite: 314A.

328-3 Tailoring. Basic principles of tailoring applied to coat or suit. Prerequisite: 127 or equivalent.

341-3 (1,1,1) Fashion Retailing Seminar. Comparison of practices drawn from students' work experiences and information from readings or resource persons. Individual and group projects. (a) Inventory shrinkage, (b) Buying and buying procedures, (c) Personnel. Prerequisite: 100 hours approved retailing experience.

343-3 Apparel Accessories. Product knowledge, levels of quality, selling points, and care of plastics, leather goods, furs, jewelry, cosmetics. Elective Pass/Fail.

349-3 Fashion Merchandising. Functions and responsibilities of the fashion merchandiser, considering various retail establishments. Professional course for retailing majors. Prerequisite: 341 and Marketing 304.

351-3 Fashion Motivation. Psychological motivation for wearing clothing; societal functions of clothing, cultural differences in dress. Prerequisite: 150.

352-3 Family Clothing. Clothing needs of individual family members within the context of developmental stage, life style and societal setting; functional and fashion-motivated needs considered; clothing budgeting. Prerequisite: 150.

393-1 to 12 (1 to 6 per semester) Field Experience. Supervised learning experience in approved business or industry. Intended for major in clothing and textiles only. Prerequisite: consent of chairperson.

405-3 Textile Product Testing. Exposure to and experience with methods used by retailers and manufacturers of textile items to measure performance and maintain quality. Standards, sampling, and replication requirements and interpretation of results. Prerequisite: 304 or equivalent.

414-4 Experimental Custom Apparel Designing. Development of apparel to meet aesthetic, structural, and functional needs; problem-solving for exceptional proportions, rehabilitation, activity, performing arts, new technology, materials, environment. Some patterns originated in 414 may be tailored following semester in 428. Prerequisite: 314A and B or equivalent.

416-3 Mass-Market Apparel Designing. Design of a line to specifications; drafting; toiles; mass-production costs; work flow; use of industrial equipment. Field trips. Prerequisite: 314 or equivalent.

418-3 Professional Practices in Fashion Design. Business principles of apparel design, including systems, forms, and logistics of money and materials. Functions and responsibilities of the fashion designer. Career opportunities in the fashion industry. Not for graduate credit. Prerequisite: 310, 314a, 314b.

428-3 Custom Tailoring. Individualizing, fitting, and contouring of male or female garment for customer from commercial pattern or from pattern originated in 414 preceding semester. Organization of work and time. Prerequisite: 328 or equivalent.

442-3 Clothing Economics. Factors of production, distribution, and consumption influencing clothing industry; management of these factors in clothing related businesses; place of clothing industry in national and international markets. Field trip. Prerequisite: GSB 211 or Economics 214.

460-3 Historic Clothing: Western Cultures. Development of clothing in Western Civilization to the present time. Consideration of social, economic and aesthetic factors, and technical innovations influencing clothing. Offered alternate years. Prerequisite: junior standing.

462-3 Historic Clothing: Non-Western Cultures. Traditional dress in non-western cultures. Aesthetics, symbolism, and uses of costume in the culture; effect of clothing on economy. Cultures studied may vary with each offering. Offered alternate years. Prerequisite: junior standing.

555-3 Foundations of Fashion.

573-2 College Teaching of Clothing and Textiles.

Coaching (Minor)

(SEE PHYSICAL EDUCATION)

Commercial Graphics — Design (Program, Major, Courses)

The advertising business is a growing field, presenting ever increasing opportunities for men and women who have creative and artistic ability. Trained people are needed to develop story illustrations, advertising layouts, billboard design, point-of-purchase displays, package designs, direct mail pieces, annual report designs, television commercials, title cards, finished lettering, fashion illustrations, air-brush and photo-retouching, and many others.

Students in this program develop multiple art skills so they may qualify for initial positions in many different areas of advertising art and design. Each individual has a base upon which to build a career according to personal special interests and talents.

Each graduating design student is required to pass, with 90% accuracy, a vocabulary proficiency test and to have compiled a professionally acceptable portfolio of work.

The student should expect to spend approximately \$800 to \$1,200 for supplies, equipment, and materials over a two year period.

An advisory committee whose members are active in the advertising and graphic design professions serves the program. Current members are: Richard Frybarger, director of visuals, John Deere Co., Moline; Richard Linton, Rechtin Associates, Paducah, Kentucky; Craig Leinicke, Craig Leinicke Design, Ballwin, Mo.; John Crowe, president, John Crowe Advertising, Springfield; Ray Welch, Ray Welch Advertising, Chicago; and J. R. Zinke, art supervisor, Bell Laboratories, Naperville.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

An individual must first be accepted academically to the university, present a portfolio of required pieces, and participate in a workshop drawing test. The 60 best qualified will be invited to enter the program the following fall.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Commercial Graphics-Design

GSB 200-level	3
GSD 101, 153.....	6
School of Technical Careers 102, 199-2.....	4
Commercial Graphics 110, 120, 122, 124, 130, 132, 133, 134, 210, 215, 222, 224, 230	61
Total	74

Courses

- 103-2 to 8 Lithographic Stripping and Platemaking Laboratory. The student will apply imposition principles for offset in stripping line and halftone negatives, positives, combinations, surprints, double burns, tints and color blocks, step and repeat, burn plates, and produce printing on small presses. Prerequisite: concurrent enrollment in 127 or consent of instructor.
- 105-2 to 8 Typesetting and Make-up Lab. Students will learn to operate photoelectronic

typesetting equipment designed to produce text as well as display type. Make-up will include work on newspaper advertisements and pages, as well as other printed material. The lab work will be performed in conjunction with the publication of a daily newspaper and other printing projects.

110-3 Art Appreciation — From the Cave to the Futuristic. The student will be able to recognize and identify at least thirty paintings and works of art and their creators from 1500 B.C. to the contemporary designer and illustrators through the observations of color, composition, and technique. A field trip will be taken to an art museum. Lecture three hours.

120-4 Artistic Anatomy and Color Perception I. Students will demonstrate an ability to understand and use pigmental and light ray color theory and practical application. Students will also demonstrate a knowledge of the bones and muscles of the human anatomy by way of examination and further demonstrate their comprehension and talent by way of artistically and accurately drawing the figure from life. Students will also demonstrate an ability to design, organize, and structure through compositional arrangement. Lecture two hours. Laboratory three hours. Prerequisite: concurrent enrollment in 122 and 124.

122-4 Technical Drawing for Graphics. Students will demonstrate an ability to understand and utilize the proper point of perspective in illustration and to use the T-square, triangle, and drawing instruments in precisely executing geometric forms, mechanical, and industrial illustration. In addition, students will demonstrate an ability to render objects on scratch-board: the utilization of zipatone patterns and the proper use of the ruling pen to accurately execute ruled business forms. Lecture two hours. Laboratory three hours. Prerequisite: concurrent enrollment in 120 and 124.

124-4 Graphic Layout and Typography I. Students will demonstrate an ability to use the basic principles of layout, how to do thumbnails, roughs, and clear accurate comprehensives. They will also demonstrate an understanding of basic lettering styles and techniques with chisel point pencil. They will demonstrate an ability to understand the history and practical uses of typography in advertising. Lecture two hours. Laboratory three hours. Prerequisite: concurrent enrollment in 120 and 122.

126-2 Fundamentals of Drawing and Composition. For non-majors. The student will demonstrate awareness of perspective, light and shade, color theory and application, and composition through basic drawing techniques. Lecture one hour. Laboratory two hours. Elective Pass/Fail.

127-2 Lithographic Stripping and Platemaking Theory. The student will pre-plan the dark-room procedures necessary to produce line and halftone negatives, positives, combinations, double burns, tints, color blocks, step and repeat, and apply nomenclature procedures to maintain a supply of materials for varied shelf life. Prerequisite: concurrent enrollment in 103.

128-2 Fundamentals of Graphic Processes. The student will be made aware of the various principles and styles of layouts, letter forms and typography and prepare mechanicals to demonstrate a knowledge of the various printing methods. The student must supply all materials used. Lecture one hour. Laboratory two hours. For non-majors. Elective Pass/Fail.

129-2 Typesetting and Make-up Theory. The student will become familiar with the various typesetting methods including handset, linotype, monotype, as well as the newer photoelectric typesetting. The study will also include the various techniques of paste-up and preparation of camera-ready copy.

130-4 Artistic Anatomy and Color Perception II. The student will continue to demonstrate knowledge and artistic ability of the human anatomy in the development of advertising, illustration, fashion illustration, and by way of modification the development of the cartoon figure. Lecture two hours. Laboratory three hours. Prerequisite: 120, 122, and concurrent enrollment in 132 and 134.

132-4 Airbrush and Photo Retouching. The student will demonstrate development of skills in the operation and techniques of airbrush rendering used for mechanical and illustrative purposes, and in addition, will retouch black and white photographs suitable for reproduction. Lecture two hours. Laboratory three hours. Prerequisite: 120 and 122 and concurrent enrollment in 130 and 134.

133-1 Copyfitting. The student will demonstrate an ability through discussion and examination to properly solve copy fitting problems, specify how many lines a given manuscript or ad will set, how deep, how many pages in any given format, and to calculate the number of characters per pica and per line. Lecture one hour. Prerequisite: concurrent enrollment in 134.

134-4 Graphic Layout and Typography II. The students will demonstrate their ability through discussion and examination to identify at least 14 different type faces on sight. In addition, they will demonstrate an ability to prepare clean, accurate, professional, quality paste-up, keylines with overlays, and separations. They will demonstrate an ability to work with offset lithography, letter press, gravure, and silk screen printing processes. Lecture two hours. Laboratory three hours. Prerequisite: 122 and 124, and concurrent enrollment in 130, 132, and 133.

200-1 to 2 (1, 1) Artfair Exhibition. Students will receive practical experience in the coordination and development of an art exhibition. They will participate in the development of announcements, mailers, cataloging, scheduling news releases, receiving of entries, security, and returning procedures. They will each develop a systems flow chart for the effective and

smooth operation of an exhibition including hands-on operation of exhibit construction and location. Laboratory three hours. Elective Pass/Fail.

201-2 to 8 Lithographic Photography Laboratory. The student will produce line and halftone negatives, tint screens, reverses contact prints, positives, posterization, process color, emphasis techniques and produce selected work on small presses. Prerequisite: concurrent enrollment in 225 or consent of instructor.

202-2 to 8 Offset Presswork Laboratory. The student will produce selected work on the Heidelberg, KORA, including multiple imposition, four-color process, step and repeat, duotones, posterization and bindery. Prerequisite: concurrent enrollment in 226 or consent of instructor.

210-8 Advertising Graphics. Students will demonstrate an ability to apply the techniques learned during the first year in the preparation of professional assignments in the areas of marker comps, logo design, cartoons to be used for various types and styles of advertising illustration, and storyboards for television commercials. Further, they will demonstrate an ability to design professional quality letterheads, envelopes, business cards, and matchbook covers. In addition, students will have their work selected for production on client-oriented publications. They will be assigned to a discussion group in order to receive the benefit of personal critique and individual progress and development assistance for projects and assignments. Lecture four hours. Laboratory six hours. Prerequisite: 130, 132, and 134.

215-8 Dimensional Design. Students will demonstrate an ability to conceptually order verbal information to form a precise concept, and to express the concept visually in the execution of point-of-purchase displays, packaging, exhibits, and signs. They will also show an ability to do package design. Students will be assigned to a discussion group in order to receive the benefit of personal critique and individual progress and development assistance for projects and assignments. Lecture four hours. Laboratory six hours. Prerequisite: 210 and 224 and concurrent enrollment in 222.

222-8 Graphic Design and Advertising Illustration. Students will demonstrate an ability to prepare professional quality assignments in the areas of cover and billboard design and illustrations, and the complete development of storyboards for television commercials. They will have the opportunity to have work selected for production on client-oriented publications. Students will be assigned to a discussion group in order to receive the benefit of personal critique and individual progress and development assistance for projects and assignments. Lecture four hours. Laboratory six hours. Prerequisite: 210 and 224 and concurrent enrollment in 215.

224-8 Publication Graphics. Students will demonstrate an ability to create new and unusual techniques in advertising design, sales promotion booklets, tent cards, and folder design with complete production art. Contemporary techniques in design and production, the use of color keys and stock will be emphasized. They will also have the opportunity to have work selected for production on various client-oriented publications. Students will be assigned to a discussion group in order to receive the benefit of personal critique and individual progress and development assistance for projects and assignments. Lecture four hours. Laboratory six hours. Prerequisite: 130, 132, 134 and concurrent enrollment in 210.

225-2 Lithographic Photography Theory. The student will inventory, order, maintain supplies and materials essential to darkroom operations to produce the lab work. They will evaluate the emphasis techniques as they are produced on colored and textured paper stocks. Prerequisite: concurrent enrollment in 201.

226-2 Offset Presswork Theory. Students will pre-plan work for the KORA including imposition of various sheet sizes or half sizes, with advantages or disadvantages with relationship to bindery procedures of folding, cutting, scoring, and perforating. Prerequisite: concurrent enrollment in 202.

230-1 Job Orientation Seminar. Students will demonstrate a knowledge through discussion and examination of the operations of large and small agencies and studios including the various responsibilities of the people employed in them by class discussion and examination. Prospecting for employment, working conditions, prospects for advancement, how much an artist should charge for a piece of art, and the legal responsibilities of the artist-designer to the client-agency will be discussed. Students will conclude this course with the presentation of a portfolio demonstrating their ability to do professional quality work (at least 10 plates) and will have acquired the experience of being interviewed for an artist position. Lecture one hour.

240-3 to 12 Special Study. A student with a special interest in a particular advertising art or graphic design area will select projects and research to develop additional professional skill. Requires approval of the program supervisor. Lecture three hours. Laboratory 24 hours maximum.

Communication Disorders and Sciences (Department, Major, Courses)

The program in communication disorders and sciences has as its objective the

training of qualified personnel to aid people who are speech, language, or hearing impaired. The undergraduate curriculum is broad in scope and gives the student the necessary preprofessional background for the clinical-research program offered at the master's level. Both state and national certification require the master's degree. Students who complete the graduate program at the master's level are qualified for positions in public or private clinics, schools, hospitals, or agencies. Students who complete the graduate program at the doctoral level seek positions with college and universities, research institutes, or governmental agencies.

The Department of Communication Disorders and Sciences is dedicated to developing students for leadership roles in the profession. Students are expected to develop programs that will enhance their individual strengths in light of their vocational goals. The undergraduate program is extremely flexible. This permits students to develop significant concentration areas outside of the department while they are laying the foundation for their graduate education.

Observation and beginning clinical experience is obtained at the undergraduate level through work at the University's clinical center and area clinics, schools, and agencies. The undergraduate program is designed to provide the student with sufficient information and experience to determine the advisability of pursuing a graduate degree. Those students who do not continue in the profession will find themselves well prepared to enter the job market with a broadly based education or pursue graduate work in allied professions.

All students are encouraged to plan programs of study to meet the academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association or the Standard Special Certificate — Certificate in Speech and Language Impaired of the state of Illinois. Planning at the bachelor's level will facilitate completion of American Speech-Language-Hearing Association and State of Illinois certification requirements in conjunction with the master's degree program.

Bachelor of Science Degree, College of Communications and Fine Arts

COMMUNICATION DISORDERS AND SCIENCES — PREPROFESSIONAL PROGRAM

<i>General Studies Requirements</i>	45
GSA, GSB, GSC	30
GSA: 9 hours minimum from 3 different departments including 115 and 209	
GSB: 10 hours minimum from 3 different departments including 202, 203, 206	
GSC: 9 hour minimum from 3 different departments	
GSD: 101, 117, 107, and 152 or 153	11
GSE: Health and physical education	4
<i>Requirements for a Major in Communication Disorders and Sciences</i>	50
Psychology 211, 301, 305	10
Rehabilitation 406	3
Communication Disorders and Sciences 105, 200, 203, 214, 302, 303, 307, 316, 318, 319, 401, 419, and 493	37
<i>Electives by Advisement*</i>	25
<i>Total</i>	120

Bachelor of Science Degree, College of Communications and Fine Arts or Bachelor of Science Degree, College of Education

A student in the College of Communications and Fine Arts or the College of Education who plans to be a public school speech and language clinician in Illinois, thereby needing to prepare to meet the requirements for the Standard Special Certificate — Certificate in Speech and Language Impaired, should follow the

program of course requirements listed above. In addition the requirements for the Teacher Education Program must be completed as part of the electives by Advisement: Education 201-1, 301-2, 302-2, 303-2, and 304-2.

Education 350, 400, and 401, the student teaching requirement and related seminar, may not be undertaken until completion of two additional requirements: 1) 9 semester hours (3 courses) selected from 505, 507, 510, 512, and 420; and 2) 70 clock hours from at least three of the following practicum courses: 494, 495, 496, 498, and 499. See also Teacher Education Program, page 63.

*If a student does not pursue the education option, electives must include 12 additional semester hours of psychology selected from the following courses: Psychology 307, 309, 311, 314, and 411. Other electives (13) by advisement.

Courses

100-0 to 1 Speech Clinic: Therapy. For students with speech and hearing deviations who need individual help. Prerequisite: consent of instructor.

104-3 Training the Speaking Voice. For those students who desire to improve their voice and articulation.

105-3 Introduction to Communication Disorders. A general survey course devoted to a discussion of the various problems considered to be speech and hearing disorders with special emphasis on basic etiological classification schemes and their incidence in the current population. Opportunities for directed observation.

200-3 Phonetics. Instruction in the use of phonetic symbols to record the speech sounds of midland American English, with emphasis on ear training, and a description of place and manner of production of these sounds. Program retention course.

203-3 Introduction to Speech-Language and Hearing Science. An introduction to the science of general speech including the history of research in the field and significant experimental trends in the future. Open to all students. Program retention course.

214-3 Anatomy and Physiology of the Speech and Hearing Mechanism. Structure and function of the speech and hearing mechanism. Program retention course.

302-3 Phonological Development and Disorders. A general introduction to the phonological development in children on a normative basis. In addition to introducing the student to the classical studies in articulatory development, this course provides a general exposure to the implications of classical phonetic theory, coarticulatory theory and distinctive features theory as a framework for therapy and research. Prerequisite: 3.0 grade point average in program retention courses or concurrent enrollment and consent of chairperson.

303-3 Language Development and Disorders. Presentation of the progressive stages of language development in the areas of syntax and semantics. The student is acquainted with normal developmental processes and introduced to identification and remediation of therapeutics with children from ages three to twelve. Theoretical considerations and terminology related to traditional structural and transformation grammars are introduced as tools for interpreting the acquisition processes. Prerequisite: 3.0 grade point average in program retention courses or concurrent enrollment and consent of chairperson.

307-3 Introduction to Organics. An introduction to the organic bases of communication disorders. An emphasis will be placed on the foundations of development and teratological events and influences which result in specific communication disorders, and overview of those disorders, and their implications for the individual. Observations as directed. Prerequisite: 214 or consent of instructor.

316-3 Introduction to Audiology and Audiometry. Basic orientation to the professional field of audiology, its history and its goals; basic acoustics, the phylogeny, anatomy and physiology of the human ear, and significant pathologies of the ear. Prerequisite: 3.0 grade point average in program retention courses or concurrent enrollment and consent of chairperson.

318-3 Parameters of Voice. Physio-acoustic parameters of voice quality variables evidenced in verbal communication. Lectures and demonstrations emphasize basic information necessary to study for the treatment of voice disorders. Prerequisite: 3.0 grade point average in program retention courses or concurrent enrollment and consent of chairperson.

319-3 Stuttering. Deals with diagnostic and therapeutic techniques for the understanding and treatment of stuttering. Prerequisite: 3.0 grade point average in program retention courses or concurrent enrollment and consent of chairperson.

401-3 Diagnostic Procedures in Communication Disorders. A general introductory course devoted to discussion of the role of the speech and hearing clinician as a differential diagnostician. Special emphasis is placed on correlating information obtained from the oral-peripheral examination, articulation and language evaluation, audiometric and case history information in constructing the initial evaluation report. Prerequisite: 302, 303, and one additional 300-level course or consent of chairperson.

408-3 Communicative Disorders: Craniofacial Anomalies. An introduction to the ontology, teratology, and management of cleft palate and various craniofacial syndromes important to majors and non-majors interested in this aspect of communication and its disorders. Associ-

- ated problems of personal and social adjustments are also examined. Prerequisite: 105, 214, 318, or consent of instructor.
- 419-3 Communication Problems of the Hearing Impaired.** Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: 302, 303 and 316, or equivalents and consent of instructor.
- 420-3 Basic Audiometric Evaluation.** Principles and procedures of audiometric evaluation: pure-tone threshold testing; techniques and standards for clinical calibration of the audiometer; clinical masking procedures; materials and procedures for speech audiometry; hearing assessment of infants and children. Prerequisite: 302, 303, and 316 or equivalents or consent of instructor.
- 428-3 Communication Disorders and the Classroom Teacher.** Etiology and therapy of common speech defects. May be taken by all inservice teachers, seniors, and graduate students in education.
- 431-1 to 6 (1 to 3, 1 to 3) Biofeedback Communication.** An investigation into the experimental approaches for the study of the phenomena of speech. Evoked potential and signal averaging techniques, psychophysiological methodology. Laboratory experience with various biofeedback instrumentation, EMG, EEG, temperature ECG, etc. Open to non-majors.
- 438-2 Problems of Communication and the Process of Aging.** Reviews problems of communication related to the aging process and examines relevant diagnostic and therapeutic techniques. For non-majors only. Prerequisite: senior or graduate standing.
- 491-1 to 4 (1 to 2, 1 to 2) Individual Study.** Activities involved shall be investigative, creative, or clinical in character. Must be arranged in advance with the instructor, with consent of the chairperson. Prerequisite: consent of chairperson.
- 493-1 to 2 (1, 1) Basic Clinical Practice: Principles and Procedures.** Supervised clinical practicum in basic theory procedures, diagnostic techniques, and preparation of reports. Prerequisite: 302, 303, and two additional 300-level courses or equivalents and consent of chairperson.
- 494-1 to 2 (1, 1) Advanced Clinical Practice: Phonological Disorders.** Advanced clinical practicum in articulation. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 302 and 493 or equivalents and consent of chairperson.
- 495-1 to 2 (1, 1) Advanced Clinical Practice: Language Disorders.** Advanced clinical practicum in language. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 303 and 493 or equivalents and consent of chairperson.
- 496-1 to 2 (1, 1) Advanced Clinical Practice: Hearing Disorders.** Advanced clinical practice in hearing disorders. Emphasis will be placed on rehabilitative procedures in audiology. Prerequisite: 316 and 493 or equivalents and consent of chairperson.
- 497-1 to 2 (1, 1) Advanced Clinical Practice: Hearing Diagnostics.** Advanced clinical practice in hearing diagnostics. Emphasis will be placed on diagnostic techniques used in the preparation of basic and advanced audiological reports. Prerequisite: 316, 420, and 493 or equivalents and consent of chairperson.
- 498-1 to 2 (1, 1) Advanced Clinical Practice: Voice Disorders.** Advanced clinical practicum in voice disorders. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 318 or equivalent and consent of chairperson.
- 499-1 to 2 (1, 1) Advanced Clinical Practice: Fluency Disorders.** Advanced clinical practicum in fluency disorders. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and preparation of reports. Prerequisite: 319 or equivalent and consent of chairperson.
- 500-3 Research Design in Speech Pathology and Audiology.**
- 503-3 Laboratory Instrumentation in Speech-Language and Hearing Science.**
- 505-3 Phonological Acquisition.**
- 507-3 Language Acquisition.**
- 510-3 Stuttering: Behavior Assessment and Therapy.**
- 512-3 Voice Disorders.**
- 517-3 Seminar: Language Disorders in Children.**
- 521-3 Advanced Audiology II.**
- 525-3 Amplification for the Hearing Impaired.**
- 526-3 Industrial and Community Hearing Conservation.**
- 528-3 Seminar: Physio- and Psycho-Acoustics of the Ear.**
- 529-3 Seminar: Experimental Audiology.**
- 533-3 to 6 (3, 3) Seminar: Speech-Language Science and Experimental Phonetics.**
- 536-3 Seminar: Administration of Speech and Hearing Programs.**
- 540-3 Neuro-Anatomical and Neuromuscular Disorders of Communication.**
- 541-3 Neurogenic Disorders of Communication II.**
- 544-3 Seminar: Phonological Disorders in Children.**
- 548-3 Seminar: Stuttering Behavior — Theory and Research.**
- 550-1 to 6 (1 to 3, 1 to 3) Professional Training Seminar.**
- 590-1 to 4 (1 to 2, 1 to 2) Readings in Speech-Language Pathology and Audiology.**

593-1 to 3 Research Problems in Speech-Language Pathology and Audiology.

598-1 to 3 Internship in Speech-Language Pathology and Audiology.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Communications and Fine Arts (College, Courses)

Courses

397-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Communications and Fine Arts. Prerequisite: consent of instructor.

497-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Communications and Fine Arts. Prerequisite: consent of instructor.

Community Development (Major [Graduate only], Minor, Courses)

The community development program is a part of the Division of Social and Community Services.

In recognition of major national legislation in community development and the growing need for informed leaders and trained practitioners at the community level in many fields, this minor has been developed.

Requirements: 15 semester hours, including 401 and at least 6 additional hours selected from community development courses and 6 more hours from community development courses or from courses closely related to the community development field offered in other departments. A list of approved courses is available from the community development office. If students receive credit in their major for any of these courses, it may not also be counted toward their community development minor.

Courses

200-3 The Nature of Community. Human communities have existed since pre-history, but the nature of what a community is, should, or could be remains a subject of wide debate. The purpose of this course is to clarify some of the issues of this debate by examining some of the ways that communities have changed since prehistoric times as well as the different philosophies and theories of community, both past and present, and also by identifying those aspects and elements of community life that appear common to all human communities. Elective Pass/Fail.

201-3 Communes and Communities: Experiments Past and Present. Throughout recorded history various individuals have envisioned, and various groups have deliberately sought to establish, communities that differed greatly from the conventional communities of the time. Some, like the medieval monastic orders or the "Bruderhoffs" of today, have been remarkably durable; but many have failed. In this course, the history and philosophy of experimental and intentional communities from monasteries to communes will be reviewed with the object of better understanding the social conditions that give birth to such communities and those conditions that appear to either enable or inhibit their survival. Elective Pass/Fail.

202-3 Communities of the Future. The focus of this course will be on problems of and solutions to the creation and maintenance of human settlements and the interdependence of social, cultural, and economic elements. Problems of crime, disease, health, moral issues, government control, population, migration, and others will be explored against a background of innovative, technical and utopian social ideas about communities of the future. Elective Pass/Fail.

289-3 Field Service Seminar. (Same as Social Work 289.) This seminar is to be taken concurrently with 295 or Social Work 295. Prerequisite: consent of instructor.

295-1 to 6 Field Service Practicum in Southern Illinois. (Same as Social Work 295.) This course is designed for freshmen and sophomores who are volunteering service to community, social service, or health service agencies in southern Illinois. Credit based upon time spent in direct service. Approval of agency required for registration.

302-3 Community Self-Study. An introduction to problem analysis and needs assessment. The self-study approach, pioneered by the Southern Illinois University at Carbondale commu-

nity development program, enables citizens in small towns and social and economic groups in urban areas to identify needed changes harmonious with their values. Examines the community self-study method and applications to current problems.

401-3 Introduction to Community Development. This course surveys the field of community development, an applied social science that encourages self-reliance by generating change and growth strategies for groups and communities. The course focuses on the history and philosophy of community development, citizen rights issues, change techniques, value dilemmas confronting change agents, and examination of some current community development programs.

402-3 Third World Community Development. Analyses of the history, goals, methods, and techniques of socioeconomic development in the Third World countries. Cultural, economic, social structural, political, and administrative factors in development and in the process of community organization are discussed. Case studies from Africa, Asia, and Latin America.

403-3 Community Organization. An examination of basic approaches to community organization used by change agents and human service workers. Special emphasis is placed on sensitizing students to consumer participation issues.

404-3 Role Theory and Analysis in Community Development. The focus of this course is on role theory and methods of analysis. The student will gain considerable exposure to the techniques of role analysis as an evaluation tool in community development training and program development. Elective Pass/Fail.

405-3 Social Planning. Introduction to the methods, practices, functions, and ethics of social planning in the United States, including a critical perspective. Criminal justice, health, manpower, welfare, and other sectors of social planning will be discussed to illustrate the principles of social planning.

491-1 to 6 Independent Study in Community Development. Supervised individual study and projects in keeping with the needs of each student. Prerequisite: consent of instructor.

497-1 to 12 (1 to 3 per topic) Seminar in Community Development. The identification and analysis of special problems in community development. (a) Project funding, evaluating, and reporting; (b) Central and peripheral systems in community development; (c) Community development cooperatives and credit unions; (d) Research problems and methods; (e) Special problems. Credit limited to not more than three per topic and not more than 12 total.

500-3 Research Seminar in Community Development.

501-4 Small Group Process in Community Development.

502-3 Community and Change.

503-3 Community Development Practice.

589-2 Community Development Internship Seminar.

593-1 to 6 Individual Research in Community Development.

595-1 to 8 Internship.

599-1 to 6 Thesis Research.

601-1 to 12 per semester Continuing Research.

Comparative Literature (Minor)

A comparative literature minor is available within the College of Liberal Arts. The program is directed by the comparative literature adviser in either the Department of English or the Department of Foreign Languages and Literatures. The minor consists of 18 hours of course work at or above the 300-level in literature other than those in which the student is majoring.

Comprehensive Planning and Design (Division, Courses)

The Division of Comprehensive Planning and Design resulted from consolidation of three units in the College of Human Resources: clothing and textiles, design, and interior design. Majors available correspond to these three units. Within the major in clothing and textiles, specializations are offered in apparel design, retailing, or a double specialization including both areas. Within the major in design, specializations are offered in countrytown, product design, and visual communications. For information on undergraduate majors, specializations, and course listings, refer to clothing and textiles, design, or interior design in this chapter. In addition to the undergraduate majors, a graduate major is available in environment design. Information on this program and courses offered may be found in the graduate bulletin.

Six core content areas have been identified for students electing to complete a major in clothing and textiles, design, or interior design. Three of these have a specific course required of all majors. In the other three, general content of the courses fulfilling the requirement is similar, but a selection of courses is permitted to best meet major requirements.

<i>Comprehensive Planning and Design Core</i>	<i>Semester Hours</i>
GSC 205 (This course may be counted toward General Studies requirements).....	3
Comprehensive Planning and Design 306, 406a, b (students with a specialization in retailing are not required to take 406b).....	4-6
One course selected from Art 100a, Design 150, 200, Interior Design 131, 231	3-4
One course selected from Clothing and Textiles 104, 304, Design 202, 313, Interior Design 332a, 350.....	2-4
One course selected from Clothing and Textiles 349, 418, Design 413, Interior Design 394.....	3
<i>Total</i>	15-20

Courses

306-3 Display and Exhibition Design. Application of design principles and use of graphics in display. Studies in two- and three-dimensional display and exhibition; model-making techniques. Incidental expenses for supplies and materials. Prerequisite: Design 102 or Interior Design 131 or 231. Elective Pass/Fail.

391-1 to 6 Independent Study. Independent effort developed by student with supervision by faculty sponsor. Prerequisite: consent of instructor.

406-3 (1, 2) Portfolio and Resume. An investigation and implementation of the planning, production and management of interface information such as resume and presentation of self and portfolio. Not for graduate credit. Prerequisite: senior standing and consent of instructor.

Computer Science (Department, Major, Courses)

The Department of Computer Science offers courses covering the major areas of computer science. These courses constitute the basis for an undergraduate major which prepares students for a variety of professional and technical careers in business, industry, and government or for graduate work leading to advanced degrees. In addition, the department offers an undergraduate minor and service courses for students from other fields who will use computer science as a tool in their own areas. Students interested in computer science will be advised with respect to computer science courses by the department so they may profitably pursue their academic and professional interests.

Requirements for a major in computer science are specified in two alternative forms. The program under option A is the more flexible, broadly based, and provides preparation for a wide range of careers as well as for graduate training in computer science. Option B is more specifically oriented toward preparing a student for a career in business and management information processing.

Bachelor of Arts Degree, College of Liberal Arts

COMPUTER SCIENCE MAJOR — OPTION A

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements (See Page 72)</i>	(4) + 4
<i>Requirements for Major in Computer Science</i>	58
Computer Science 202, 204, 302, 304, 306, 342, 411, each with a grade of C or better	23

Computer Science electives ¹	18
At least 18 additional hours including 361 or 464a. The electives should include at least 12 hours of 400-level computer science courses. The remaining courses may be 300 or 400-level computer science courses or approved courses from other departments.	
Mathematics 150, 250, 221	11
Mathematics 280 or 282 or 283.	3
English 290 or equivalent	3
<i>Electives</i>	13
<i>Total</i>	120

COMPUTER SCIENCE MAJOR — OPTION B

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements (See page 72)</i>	(4) + 4
<i>Requirements for Major in Computer Science</i>	60
Computer Science 202, 204, 302, 304, 306, 312, 411, each with a grade of C or better.	
Computer Science 430, 435	6
Computer Science electives ¹	6
At least 6 additional hours of computer science courses including at least 3 hours at the 400-level.	
Mathematics 139 and 140 or equivalent	7
Mathematics 280 or 282 or 283.	3
English 290 or equivalent.	3
Accounting 220, 230	6
Administrative Sciences 352	3
Administrative Sciences 318 or 456 or an approved course	3
<i>Electives</i>	11
<i>Total</i>	120

¹A Computer Science major must be able to demonstrate programming proficiency in two high level languages. Proficiency can be demonstrated in an appropriate course or by an examination.

Minor

A minor consists of Computer Science 202, 204, 302, 304, and 306.

Courses

102-3 Computers in Society. An introduction to computers, their uses, present and future roles of computer technology in society, and related social issues. Includes elementary programming using on-line terminals.

202-3 Introduction to Computer Programming. An introduction to computers and programming including a discussion of algorithms, data representation, structure and debugging of programs, computers and languages. Primary emphasis will be given to the design of algorithms for the solution of problems and the programming concepts required to implement algorithms in a particular programming language.

204-3 Advanced Programming Techniques. A continuation of 202 which includes an emphasis on programming style, advanced features of the language and elementary data structures. Prerequisite: 202.

205-4 Advanced Programming Techniques. A version of 204 designed for students having a first course using some language other than the one used in 202. Prerequisite: consent of department.

212-3 Introduction to Business Computing. An introduction to concepts and features of computing systems with reference to business information processing. Includes a basic treatment of programming using PL/1.

302-4 Assembly Language Programming. Basic computer organization. An extensive treatment of a specific assembly language, including macros. Prerequisite: 204 or concurrent enrollment.

304-3 Information Structures. Study of structures used to organize information in computer

memory, with a discussion of manipulation algorithms and applications. Topics include vectors and arrays, linked lists, trees, garbage collection, dynamic storage allocation, sorting and searching, and hashing. Prerequisite: 204 and 302 each with a grade of C or better.

306-3 Fundamentals of Computing Systems. An introduction to the organization of a computing system in terms of hardware, firmware, software. Computer architecture and hardware subsystems. Design of an assembler and other system software. Prerequisite: 204 and 302 each with a grade of C or better.

312-3 COBOL and Business Data Processing. COBOL and its use in business data processing. Prerequisite: 202 or 212.

314f-2 Programming Techniques in FORTRAN. A thorough treatment of FORTRAN with extensive programming practice. Prerequisite: 202 or 212.

314l-2 Programming Techniques in List and String Processing Applications. Thorough analysis of the techniques used to support string and list processing. Includes extensive programming practice. Prerequisite: 204.

318-2 Topics in Assembly Language Programming. Selected advanced topics in assembly language programming. Prerequisite: 304 and 306.

342-3 Introduction to Discrete Structures. (Same as Mathematics 301.) Sets, relations, and functions. Elements of graph theory with emphasis on algorithms and applications to computing problems. Boolean algebras with applications to computer logic and logical design. Prerequisite: 202 or 212 and Mathematics 111 or consent of either department.

361-3 Numerical Calculus. (Same as Mathematics 361.) Algorithms for the solution of numerical problems encountered in scientific research work with special emphasis on the use of digital computers. Includes an elementary discussion of error, polynomial interpolation, quadrature, solution of nonlinear equations and linear systems, solution of differential equations. Prerequisite: 202 or 212 and Mathematics 221.

401-3 Computer Organization. Computer main frame architecture; control unit, arithmetic/logic unit, memory, other features. Input/output devices, mass storage devices, channels, and communications equipment. Computer system configurations design and comparison. Prerequisite: 304, 306 and 342.

411-4 Programming Languages. Study of the significant features of existing programming languages with particular emphasis on the underlying concepts abstracted from these languages. Includes formal specification of syntax and semantics, representation and evaluation of simple statements, grouping of statements, scopes and storage allocation, procedures. Prerequisite: 304.

414-3 Systems Programming and Operating Systems. The use and implementation of assemblers, macro assemblers, linkers, and other systems programs. Exercises in designing and writing various systems programs. An introduction into process, memory, device, and file management in batch, multiprocessing, and timeshared operating systems. Prerequisite: 304 and 306.

420-1 to 3 Topics in Computer Science for Teachers. A consideration of topics in computer science useful in curriculum enrichment in elementary and secondary education. May be repeated as topics vary. Does not count toward a computer science major. Prerequisite: consent of department.

430-3 File Organization and Database Systems. Secondary storage devices. File organizations and access methods. Indexing, security, backup, and recovery. Overview of database management systems, including network, hierarchical, and relational systems, and query languages. Prerequisite: 304 and 306.

432-3 Database Programming. Programming projects using hierarchical, relational, and network database management systems. Projects will be taken from typical commercial applications. Prerequisite: 312 and 430.

435-3 Software Design and Development. An exercise in the analysis, design, implementation, testing, and maintenance of a large modular application system. Team production of a system is the focal point for the course. Topics include the system life cycle, modular design, human interfaces, external system specification, program design languages, and improved programming techniques. Prerequisite: 304 and 306.

436-3 Artificial Intelligence I. Heuristic Programming. Heuristic methods: state space, problem reduction, game playing, general problem solver, learning machines. Prerequisite: 304.

438-3 Introduction to Telecommunications. Time dependent computational processes. Hardware and software considerations. Dialogue design. System design and implementation. Prerequisite: 304 and 306.

445-3 Computer Logic and Digital Design. (Same as Mathematics 445.) Boolean algebra with applications to computer logic and design. Combinational circuits, sequential circuits, and sequential machines. Processor and control logic design. Introduction to error-correcting codes. Prerequisite: 342 or both 202 and Mathematics 319.

449-3 Combinatorics and Graph Theory. (Same as Mathematics 449.) An introduction to graph theory and combinatorial mathematics with computing applications. Topics include permutations and combinations, generating functions, recurrence relations, the principle of inclusion and exclusion, Polya's theory of counting, graph theory, transport networks, matching theory, block designs. Prerequisite: 342.

- 451-3 Introduction to the Theory of Computing.** (Same as Mathematics 451.) The fundamental concepts of the theory of computation including finite state acceptors, formal grammars, turing machines, and recursive functions. Relationship between grammars and machines with emphasis on regular expressions and context-free languages. Prerequisite: 445.
- 455-3 Design and Analysis of Computer Algorithms.** Introduction to analysis and complexity of algorithms. Searching/sorting algorithms, polynomial matrix algorithms, graph theoretic algorithms. Introduction to complexity theory. Prerequisite: 304, 342.
- 464-6 (3, 3) Numerical Analysis.** (Same as Mathematics 475.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Must be taken in a,b sequence. Prerequisite: 202 or 212, Mathematics 250, and Mathematics 221.
- 470-3 Computer Simulation Techniques.** Applications and rationale. Design and analysis of discrete simulation models. Generation of random sequences and stochastic variates. Simulation languages. Prerequisite: 202 or 212, Mathematics 280 or 282 or 283 or equivalent.
- 471-3 Introduction to Optimization Techniques.** (Same as Mathematics 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 202 or 212, Mathematics 221, and Mathematics 250.
- 472-3 Linear Programming.** (Same as Mathematics 472.) Nature and purpose of the model. Development of the simplex method. Application of the model to various problems. Introduction to duality theory. Transportation and network flow problems. Postoptimality analysis. Prerequisite: 202 or 212, and Mathematics 221.
- 485-3 Computer Graphics.** Study of the devices and techniques for the use of computers in generating graphical displays. Includes display devices, display processing, transformation systems, interactive graphics, 3-dimensional graphics, graphics system design and configuration, low and high level graphics languages, and applications. Prerequisite: 304 and 306 and Mathematics 111 or equivalent.
- 490-1 to 6 (1 to 3 per semester) Readings.** Supervised readings in selected subjects. Prerequisite: consent of instructor and department.
- 491-1 to 4 Special Topics.** Selected advanced topics from the various fields of computer science. Prerequisite: consent of instructor.
- 492-1 to 6 (1 to 3 per semester) Special Problems.** Individual projects involving independent work. Prerequisite: consent of department.
- 493-1 to 4 Seminar.** Supervised study. Preparation and presentation of reports. Prerequisite: consent of instructor.
- 501-3 Advanced Computer Organization.**
- 511-3 Formal Specification of Programming Languages.**
- 514-3 Advanced Operating Systems.**
- 516-3 Compiler Construction.**
- 530-3 Database Management Systems.**
- 532-3 to 6 Topics in Information Systems.**
- 536-3 Artificial Intelligence II.**
- 553-3 Formal Languages and Automata.**
- 555-3 Theory of Computability.**
- 564-3 to 9 (3,3,3) Advanced Numerical Analysis.**
- 570-3 to 9 per topic (3, 3, 3) Topics in Operations Research.**
- 590-1 to 9 Readings.**
- 591-1 to 9 (1 to 3 per topic) Special Topics.**
- 592-1 to 6 (1 to 3 per semester) Special Problems.**
- 593-1 to 4 Seminar.**
- 599-1 to 5 Thesis.**
- 601-1 to 12 per semester Continuing Research.**

Construction Technology — Building (Program, Major)

(ALSO SEE CONSTRUCTION TECHNOLOGY — CIVIL)

The construction technology — building curriculum is designed to meet the needs of the construction industry. The technicians must be able to talk the language of the industry and interpret instructions, and must also be capable of working in the area between the architect and the craftsmen who are expected to carry out the mandates of the design. The program provides sufficient theory and laboratory work so that the graduate can perform in areas of design, drafting, construction methods, estimating, and surveying.

The curriculum is designed to accept both new freshmen and transfer students. Students entering with industrial experience or courses taken in the military may be given credit by proficiency or transcript evaluation.

The student should expect to spend about \$60 for instruments and supplies.

The program is served by an advisory committee whose members have extensive experience in the field. Current members are: Mike Grant, Unibuilt Structures, Charleston; Fred H. Persson, Steffes Construction Co., Cartersville; Paul Phillips, Phillips Lathing, Inc., Carbondale; D. Leo Robinson, J & L Robinson Development and Construction Co., Carbondale; and Arthur Vincent, Egyptian District Council Carpenter's Union, Murphysboro.

Graduates of this program may find employment as construction engineering aids, assistants to a contractor supervisor, building materials sales representatives, inspectors, and estimators.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experiences.

Associate in Applied Sciences Degree, School of Technical Careers

Requirements for Major in Construction Technology — Building

GSD 101.....	3
School of Technical Careers 102, 105a,b, 107a,b, 120	13
Construction Technology 102a, 103a,b, 104, 110, 111, 125a,b 208, 210, 211	53
Electives (in Humanities or Social Science)	3
Total	72

Construction Technology — Civil (Program, Major, Courses)

The construction technology — civil curriculum is designed to produce a technician who can, under supervision, perform many of the specialized tasks required to coordinate and guide a construction project from the planning stage to a satisfactory completion. Technical training is provided in surveying, materials of construction, construction methods, equipment, planning, estimating, design, and drafting.

Credit may be obtained for relevant courses or work experience by transcript evaluation or proficiency examination.

The student should expect to spend approximately \$40 for instruments and supplies.

The following people serve on an advisory committee which assists the program: M. P. Berteaux, Department of Transportation, Springfield; Carroll Fry, city manager, Carbondale; Charles Luckett, Superior Structures Corp., Marion; Henry Mitchell, Shawnee Construction, Marion; B. J. Schwegman, Clark, Dietz, and Associates, consulting engineers, Carbondale; and Don Shelton, State Highway Department, Carbondale.

Career opportunities exist primarily with heavy construction oriented organizations: governmental units engaged in providing public works such as highways, airports, and conservation projects; contractors; consulting engineers; industrial organizations; material suppliers and testing laboratories.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experiences.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Construction Technology — Civil

GSD 101..... 3

School of Technical Careers 102, 105a,b, 107a,b 10

Construction Technology 101a,b, 102a,b, 103a,b, 125a,b, 201, 203,
207, 208, 213a,b 53

Elective (in Humanities or Social Science) 3

Total 69

Courses

101-14 (7, 7) Surveying. Students will be able to make observations, prepare field notes, and make field checks using equipment usually encountered in plane surveying. They will be able to reduce field notes and present the results in a form which is understandable to others using the desk calculator, planimeter, slide rule, and drawing instruments as required. They will know techniques employed in construction layout. (a) Horizontal distance, leveling, the transit, traverses, elementary triangulation, surveys for maps, stadia and photogrammetry, construction surveys. Lecture three hours, laboratory six hours. (b) Surveying computations, areas, volumes; error theory, earthwork, horizontal curves, vertical curves, slope staking, ties, construction tolerances, elements of land surveying, state plane coordinate systems. Must be taken in a,b sequence or by consent of instructor. Lecture three hours, laboratory six hours.

102-8 (4, 4) Drafting. Students will acquire the basic skills necessary for more advanced drafting work. They will then specialize in drafting techniques used in the preparation of working drawings for steel and concrete structures. (a) Lettering, line work, geometrical constructions, drawing layout, dimensioning, orthographic projection, sections, auxiliary views, surface intersections, surface development, isometric drawing, oblique drawing, elements of structural drafting. Lecture two hours, laboratory four hours. (b) Preparation of working drawings for steel and concrete structures from given design data. Lecture two hours, laboratory four hours.

103-8 (4, 4) Construction Materials. Students will obtain knowledge of production methods, physical properties, uses, installation methods, advantages and disadvantages, together with relative costs of materials frequently used in construction. Using given test procedures, they will be able to perform tests on concrete materials and soils which are required for on-site control. (a) Concrete materials including laboratory, wood, ferrous metals, bituminous materials, soil cement, nonferrous metals, stone, masonry, concrete proportioning, introduction to reinforced concrete. Lecture two hours, laboratory three hours. (b) Soils including laboratory, elementary soil mechanics, foundations, other building materials including plastic, glass, insulation, building boards, protective coatings. Lecture two hours, laboratory three hours.

104-4 Building Construction Surveying. Students will be able to give line and grade for elementary construction layout using the tape, transit, and level or equivalent equipment. They will also be able to make surveying observations required for the preparation of a site plan. Lecture two hours, laboratory three hours.

110-7 Basic Construction I. Students will acquire the skills and knowledge necessary to enable them to safely operate basic woodworking machines, identify the common commercial wood species, and apply basic methods of testing wood and other wood-based materials. Lecture two hours, laboratory nine hours.

111-7 Basic Construction II. Students will acquire the skills and knowledge necessary to enable them to demonstrate their abilities in light frame construction, electrical wiring methods, and small tool maintenance and repair. Lecture two hours, laboratory nine hours. Prerequisite: 110 or consent of instructor.

125-6 (3, 3) Statics and Strength of Materials. The student will learn fundamental concepts which are necessary in order to understand terms continually used in civil technology. (a) Force systems, strength of materials, friction, connections, thin wall, pressure vessels. Lecture three hours. (b) Beam design, torsion, shafts, couplings, keys, combined stresses, columns, statically indeterminate members. Lecture three hours.

201-3 Advanced Surveying. The student will develop the ability to organize a small field party, make field observations using techniques consistent with given survey requirements, and present results in a form useful to others. Comprehensive problems will be assigned which include traverses, triangulation, topography and field astronomy. Laboratory and homework in addition to regularly scheduled class time will be required. Lecture two hours, laboratory two hours. Prerequisite: 101 or consent of instructor.

203-3 Hydraulics and Drainage. Students will have sufficient technical background to perform inspection functions on projects where static and moving liquids are being controlled. Under supervision, they will be able to make small area surface run-off and drainage structure computations. Subjects studied are: static pressures, flow in open channels and pressure conduits, surface run-off, drainage structures. Lecture three hours.

207-3 Construction Planning, Methods, and Equipment. Students will have basic knowledge of construction management functions, primarily from the point of view of the contractor. They will be able to assist in the preparation of work schedules, requests for progress

payments and the evaluation of alternate methods of construction. Systematic problem-solving procedures based on factual data are emphasized. Lecture three hours. Elective Pass/Fail.

208-3 Construction Cost Estimating. The student will be able to assist in the preparation of construction cost estimates. Actual working drawings and specifications are used extensively. Emphasis is on quantity take-off and the development of unit costs from given or derived data. Lecture three hours.

210-7 Advanced Construction I. Students will acquire the skills and knowledge to enable them to perform advanced operations in light frame, prefab, and modular construction. Lecture three hours, laboratory six hours. Prerequisite: 111 or consent of instructor.

211-7 Advanced Construction II. Students will acquire the skills and knowledge to enable them to demonstrate their competency in the preservation and finishing of building materials, plumbing and pipefitting as it relates to domestic and other buildings, concrete forming methods; and block and bricklaying techniques. Lecture three hours, laboratory six hours. Prerequisite: 210 or consent of instructor.

213-5 (2, 3) Structural Design. Sufficient design background is provided for supervision of field construction techniques to insure that the intentions of the drawings and specifications are fulfilled. (a) Pertinent provisions in the American Institute of Steel Construction-Manual of Steel Construction are emphasized. Lecture two hours. (b) Similar to (a), but the American Concrete Institute-Building Code Requirements for Reinforced Concrete is used. Lecture three hours.

Consumer Economics and Family Management (Major, Courses)

(SEE FAMILY ECONOMICS AND MANAGEMENT)

Consumer Studies (Minor)

(SEE FAMILY ECONOMICS AND MANAGEMENT)

Correctional Services (Program, Major)

(ALSO SEE LAW ENFORCEMENT)

A growing demand for trained correctional workers is being created by increasing emphasis on rehabilitation of criminal offenders. These people are needed both in institutions and in community-based corrections.

This correctional services program has the two-fold purpose of providing a broad-based social science type curriculum to both the person entering the field and to presently employed personnel who wish to upgrade skills for advancement opportunities.

Students will learn the nature and effects of crime on both the perpetrator and the victim, methods used to combat crime in modern society, and various approaches to rehabilitation of the offender. They will spend one term in supervised internship working in a correctional institution or with a correctional agency.

Persons already employed in the correctional field may enroll in the program on a part-time basis with the assurance that faculty members will help them to arrange classes compatibly with their work schedules.

Professionals in the field serve on an advisory committee which assists in the program. Current members are: Charles Brantley, chief probation officer, Jackson County, Murphysboro; Michael Lane, director of adult institutions and assistant director of the Department of Corrections, Springfield; Ken McGinnis, Warden, Graham Correctional Center, Hillsboro; and Joseph Coughlin, Center for the Study of Crime, Delinquency and Corrections, Southern Illinois University at Carbondale.

This associate degree program can be completed in two academic years at

Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Correctional Services

GSB 202, 203, 212	11
GSD 101, 118, 153	8
Correctional Services/Law Enforcement 103, 104, 105, 106, 108, 115, 209, 210, 218, 220, 395	39
Electives	4

Total 62

Correctional Services/Law Enforcement (Courses)

Courses

103-3 Introduction to Criminal Justice. Enables the student to understand the workings of the criminal justice system and is the foundation course for the correctional services and law enforcement programs. Upon completion of this course, the student will have an understanding of the processes from arrest through imprisonment enabling assimilation of progressive courses such as criminal law and criminal behavioral theories. Lecture three hours.

104-3 Treatment Methods in Criminal Justice. The general goal of this course is to introduce to the student several treatment methods utilized in the criminal justice system. The student will briefly examine several treatment modalities and will discuss transactional analysis in detail. Other course items will include participation in a treatment group and a trip to a maximum security prison. Participation is required in many group exercises that may be scheduled at times other than regularly scheduled class time. These group exercises should help the student gain a working knowledge of treatment methods and group processes. Lecture three hours

105-3 Criminal Behavior. Will enable the student to understand the psychological and sociological forces that make up criminal behavior. Upon completion of this course the student will have the knowledge to complete studies of the behavioral field in other disciplines of the University such as criminology. Lecture three hours.

106-3 Treatment Practicum. Will enable the successful student to apply the techniques learned in 104 in actual therapeutic settings and groups in area social service agencies and correctional institutions. Upon completion of this course, the successful student will be prepared to assist in leadership of therapeutic or treatment modalities and will have the ability to use these skills in human service agencies. Lecture three hours. Prerequisite: 104.

108-3 Supervision in Criminal Justice. The criminal justice supervisor's role in discipline, intradepartmental relations, problem-handling, and personnel policies. Problems relating to supervisory relationships, wages, grievances, morale, and safety. Lecture three hours.

115-3 Interpersonal Relations in Criminal Justice. Enables the student to develop a better understanding of people, their motivations, and their behavior patterns. A specific emphasis of this course is on individual and organizational intrapersonal and interpersonal relations. Upon successful completion of this course, each student should have developed the skills necessary for positive interaction with individuals in the free society and within a setting of incarceration. Participation in group exercises at times other than regularly scheduled class time is required. Lecture three hours.

205-3 Criminal Investigation. Enables the student to examine the major theories and techniques of criminal investigation. Upon successful completion of the course, the student should have an understanding of the techniques of criminal investigation and how these techniques can be applied to various types of investigations. The student should learn the value of adequate preservation, collection, and handling of physical evidence. Lecture three hours.

209-3 Criminal Law I. Enables the student to understand the due process functions of the criminal law. Upon completion of this course the student will be able to use a law library and will have an understanding of the laws of arrest, search and seizure, and evidence including recent Supreme Court decisions affecting daily work assignments. This course is also a foundation for Criminal Law II where the substantive law is covered. Lecture three hours.

210-3 Criminal Law II. Will enable the student to apply the law of due process (constitutional law) to the study of substantive law including Illinois state penal code and the Illinois Corrections Code. Upon completion of this course the student will have a working knowledge of how both the penal and corrections codes of the state enables society to successfully prosecute violators of the law. The student will also be able to brief cases pertaining to criminal and correctional law. Lecture three hours. Prerequisite: 209.

218-3 Introduction to Corrections. Will enable the student to develop an understanding of current problems (drugs, racial tension, subcultures) in correctional institutions; foundation of corrections in America; effect of recent court decisions and inmate population on correctional institutions; relationship of correctional services to the criminal justice system. Lecture three hours.

220-3 Probation, Parole, and Community Based Corrections. Will enable the student to understand the concept of alternatives to incarceration. The benefits and workings of probation and parole will be examined and the student will be exposed to the casework method utilized in these areas. The student will learn of alternatives to incarceration that are community based and of the need for community involvement and support for these efforts. Lecture three hours. Prerequisite: 103.

221-3 Police Administration. Principles of organization and modern management as applied to law enforcement agencies. The course will provide the student with an introduction to organizational theory, organizational behavior and administration. Special attention will be paid to the objectives of police operation and some of the factors lying ahead in the field of police administration. Lecture three hours. Prerequisite: 103 and 108.

395-9 Internship in Criminal Justice Practice. The pre-service student will be exposed to the operations of a criminal justice agency through an eight-week internship in that agency under supervision. Upon completion of the internship, the student will have been exposed to all aspects of the agency and reinforce the student's attitudes toward that particular area of criminal justice. (Internship: 40 hours per week for eight weeks.) Prerequisite: sophomore standing and fifteen hours of credit in correctional services/law enforcement courses.

Curriculum, Instruction, and Media (Department, Majors, Minor [Educational Media], Courses)

Students may enter the Department of Curriculum, Instruction, and Media (1) directly from within the College of Education, (2) from the General Studies Program, (3) from other academic units, or (4) from other institutions of higher education. The department offers a major in early childhood education with either a preschool or a kindergarten through grade 3 specialization, a major in elementary education, a minor in educational media, and offers courses for students pursuing the standard high school certification program.

Educational Media Minor

Persons trained as teachers may qualify as a school media professional by completing the following courses: 438, 439, 440, 442, 435 or 445, and Education 304a. Other courses in the utilization and administration of teaching materials are designed to train both audiovisual coordinators and librarians to become fully qualified educational media specialists who can administer all teaching materials.

Bachelor of Science Degree, College of Education

The Department of Curriculum, Instruction, and Media prepares students to qualify for the following Illinois teaching certificates: Early Childhood Certificate (for teaching ages 0-6), Standard Elementary Certificate (for teaching in grades K-9), or Standard High School Certificate (for teaching in grades 6-12).

Early Childhood Education Major

EARLY CHILDHOOD EDUCATION MAJOR — PRESCHOOL SPECIALIZATION

Students interested in teaching children 0-6 years of age in private or state-approved settings may elect to participate in the early childhood education major with preschool specialization program. This major is jointly offered with the Division of Human Development in the College of Human Resources. Specifically designed to prepare future teachers of children under six, this program will lead to the State of Illinois Early Childhood Certificate. Students wishing to teach public school kindergarten are directed to the K-3 specialization program.

There are sequential steps for admission and retention in the early childhood education major with preschool specialization program,

1. Completion of Child and Family 240, 245, and Curriculum, Instruction, and Media 209 with a grade of C or higher, an overall grade point average of 2.15, and a favorable vote of a preschool committee based on the student's performance in the above courses.

2. To be eligible for field experience, a student must have attained a minimum overall grade point average of 2.25, successfully completed Child and Family 227, 237, 240, 245, 337, 345, 456, 466; Curriculum, Instruction, and Media 209, 317, 318; Special Education 400 and 412; have made preliminary application for field experience; and be approved by the coordinator of the early childhood education major with preschool specialization program based on performance in the above courses. Applications for field experience must be submitted to the coordinator of field experience, Quigley Hall 116D within the first two weeks of the semester during which the student is enrolled in Curriculum, Instruction, and Media 318.

<i>General Studies Requirements</i>	45
Including GSB 202; GSB 212 or 300 or 301; GSC 100 and an art class; GSD 117 or 119; GSE 201 and Physical Education activity class.	
<i>Requirements for Major in Early Childhood Education with Preschool Specialization</i>	70
Child and Family 227, 237, 240, 245, 337, 345, 456, 466, 471-8 ¹	31
Curriculum, Instruction, and Media 209, 213, 317, 318, 418, 419, 435	21
Food and Nutrition 100	3
Music 303	3
Psychology 301	3
Special Education 400, 412	6
Speech Communication 444	3
<i>Electives</i>	13
Selected to meet general education requirements for certification	
<i>Total</i>	128

¹During the field experience semester a student may enroll in Child and Family 471 and no more than six additional hours of credit or two additional courses. A four hour block of time is required each day during the field experience semester. Morning placements are to be expected and planned for. Child and Family 471 must be supervised by the coordinator for field experience.

Students wishing further enrichment in special education should contact their adviser for a list of recommended courses.

EARLY CHILDHOOD EDUCATION MAJOR — KINDERGARTEN THROUGH GRADE THREE SPECIALIZATION

In the early childhood education kindergarten through grade 3 specialization program, special emphasis is placed on teaching young children in the elementary school. This major leads to the State of Illinois Standard Elementary Certificate.

In order to qualify for retention in the teacher education program, students must have completed two Curriculum, Instruction and Media courses with a C or higher grade, attained a grade point average of at least 2.20 and have favorable majority vote of the early childhood education faculty on the basis of professional competencies.

<i>General Studies Requirements and Additional General Education Requirements for Major</i>	75
Physical and Biological Sciences (GSA)	11
Social Sciences (Including GSB 202 and 300 or 301, other GSB courses)	11
Fine Arts (Including GSC 100, 101, or 205. Music 101 or two levels of Music 030; Music 300; and Art 348.	14

Language Arts (Including GSD 101; 117 or 119; GSD speech and GSC literature)	16
Mathematics (Including Mathematics 114 or equivalent to substitute for GSD 107 and Mathematics 314)	7
Health and Physical Education (Including GSE courses and Physical Education 202)	7
Electives (Curriculum, Instruction, and Media 427 recommended) ¹	9
Professional Education Requirements	25
See Teacher Education Program, page 63.	
Specialization Requirements for Major	24
Curriculum, Instruction, and Media 213, 312, 315, 316, 324, 423, 426, 435 ¹ , Vocational Education Studies 368	
Electives	4
Must be taken in Curriculum, Instruction, and Media: recommended are 402, 412, and 419	
Total	128

¹Applies as a general education certification requirement for major.

Elementary Education Major

A Bachelor of Science degree with a major in elementary education entitles the student to apply for the State of Illinois Standard Elementary Certificate, which will allow the holder to teach in kindergarten through ninth grade.

Elementary education majors may select either an area of interest consisting of eight semester hours of electives in science, language arts, social studies, mathematics, language other than English, multicultural studies, educational media, the arts, physical education, or environmental education.

In order to qualify for retention in the teacher education program, students must have completed two Curriculum, Instruction and Media courses with a C or higher grade, attained a grade point average of at least 2.20 and have favorable majority vote of the elementary education faculty on the basis of professional competencies.

General Studies Requirements and Additional General Education Requirements for Major	67
Physical and Biological Sciences (GSA)	11
Social Studies (Including GSB 202, 212, and 300 or 301)	11
Fine Arts (Including GSC 100, 101, or 205; must include one music and one art course, which may be taken as part of GSC)	9
Language Arts (Including GSD 101; 117 or 119; GSD speech and GSC literature)	16
Mathematics (Including Mathematics 114 or equivalent to substitute for GSD 107 and Mathematics 314)	7
Health and Physical Education (GSE)	5
Electives (May be taken from electives cited under specialization requirements to further enhance and support this area)	8
Professional Education Requirements	25
See Teacher Education Program, page 63.	
Specialization Requirements for Major	26
Curriculum, Instruction, and Media 312, 315, 423, 424, 426, 435 ²	18
Electives	8 ¹
Electives to be selected from one of the following areas: science, language arts, social studies, mathematics, language other than English, multicultural studies, educational media, the arts, physical education, or environmental education	

<i>Electives</i> ³ (eight hours must be in Curriculum, Instruction, and Media courses)	10
<i>Total</i>	128

¹Elective hours from general education may apply; combined total must equal 16 hours.

²Applied as a general education certification requirement for major.

³Many states require a course on special needs learners and two courses in reading methods. Two courses in reading are required for teaching in Chicago schools.

Majors To Prepare For Secondary School Teaching

Students who elect to pursue a Bachelor of Science degree in the College of Education, for purposes of preparing to teach in junior or senior high schools, should select academic majors and minors from the areas included in the listing below. Included in the column headed Major are those areas for which Southern Illinois University at Carbondale has approval from the State of Illinois Office of Education and from the State Teacher Certification Board.

TEACHING AREA	MAJOR	MINOR ¹
Agricultural Education ²	X	
Art	X	
Biological Sciences	X	X
Black American Studies		X
Botany ³	X	X
Business Education ²	X	X
Chemistry	X	X
Earth Science		X
Economics		X
Educational Media		X
English	X	X
Foreign Languages ⁴	X	X
Geography	X	X
Health Education	X	
History	X	X
Home Economics Education ²	X	
Language Arts (English and Reading)	X	
Mathematics	X	X
Microbiology		X
Music	X	X
Occupational Education (Industrial Arts and Trades and Industries) ²	X	
Philosophy		X
Physical Education	X	X
Physics	X	X
Physiology		X
Political Science	X	X
Psychology		X
Social Studies	X	
Sociology		X
Speech Communication	X	X
Theater		X
Zoology ³	X	X

¹All minors used for certification purposes must include a minimum of 18 semester hours.

²Requirements for programs in agricultural education, business education, home economics education, and occupational education may be found in the catalog section titled Vocational Education Studies.

³A student with a major in botany or zoology should have a minor in the other in order to meet certification standards for teaching biology at the high school level.

⁴Majors and minors are offered in the specific languages. The student should consult the academic adviser for information concerning the majors and minors available.

Each student who wishes to apply for the Standard High School Certificate through the certification entitlement process at Southern Illinois University at Carbondale must fulfill the following requirements of the University's Teacher Education Program:

- 1. The individual must have completed a baccalaureate program at Southern Illinois University at Carbondale.
- 2. The individual must have completed one of the approved majors included in the previous listing.
- 3. The individual must have fulfilled requirements for certification related to the state and federal constitutions and an American government or American history course by either (a) taking GSB 212, or, 300 or, 301; (b) taking a course in American history or political science other than those listed in (a), above, and passing the constitution test administered by Southern Illinois University at Carbondale; (c) presenting written notification from another institution that a course in American history or political science has been passed and that the Illinois and United States Constitutions tests have been passed.
- 4. The individual must have fulfilled certification requirements in health and physical education which can be satisfied by taking GSE 201 and two hours in GSE 100-114 courses.
- 5. The individual must have completed the following sequence of professional education courses:

<i>Professional Education Sequence</i>	25
Decision Component	
Education 201 ¹	1
Basic Professional Block	
Education 301	2
Education 302	2
Education 303	2
Education 304a, b, c, d, e, f, g, or h	2
Education 312 ³	1
Professional Semester ²	
Education 350	3
Education 400	4
Education 401	8

¹Must be completed prior to admission to the teacher education program.
²See catalog section titled Professional Education Experience for prerequisite for student teaching in the professional semester.
³The following courses are approved substitutes for Education 312 as a part of the professional education requirements for the majors indicated: Music 304 and 306 for music majors; Speech Communication 230 and 390 for speech majors; and Communication Disorders and Sciences 105 and 493 for communication disorders and sciences majors.

- 6. The individual must have completed a special methods course pertaining to the major.
 - 7. The individual must have fulfilled State Teacher Certification Board general education distributions in the required areas: language arts, science, mathematics, social studies, humanities, health and physical education.
- Students who wish to prepare to teach in middle school or junior high schools should inform their advisers of this interest early so they can include in their programs those courses which will prepare them for teaching in that area. The student's electives should be planned to include course work in a subject matter area of major interest to the student.

Language Arts (English and Reading) [Major]

This program is designed to meet the needs of students who wish to teach English language arts (including reading) at the junior/middle school level, or who wish to teach high school students whose language skills are not up to high school level.

The graduate of this program will be qualified to work with the language skills development which is crucial during early and middle adolescence. To develop such qualifications, students in the program learn how language skills are developed, the characteristics of the early and middle adolescent, and the variety of content, including literature, which can be used with these young people. The student also will gain an understanding of how these components can be integrated in a variety of school and classroom formats.

The content courses provide the substance or building blocks for use in the methodology courses, where teaching strategies are explored and experienced. The clinical experiences provide for guided practice where the student begins practical skill development, synthesizing and applying an understanding of English language arts content, learning and teaching strategies, adolescent behavior, and public school curricular needs.

<i>General Studies Requirements</i>	45
Including GSB 202, 212, and 300 or 301; GSD 117, 118, or 119; GSD 152 or 153; GSE 201, Physical Education activity course.	
<i>Requirements for Major in Language Arts</i>	
<i>(English and Reading)</i> ¹	45
GSC 200, 365	6
English 290 or 390, 300, 302a or 302b, 309, 481, 485	18
Curriculum, Instruction, and Media 361, 445, 407f, 423, 462	15
Electives	6
Electives representing a minimum of two categories must be taken from the following:	
Curriculum, Instruction, and Media 393c,f, 407c, 402, 464.	
Speech Communication 430; Speech Communication 465 or Philosophy 425; or Speech Communication course beyond 200.	
Theater 410.	
One of: English 281, 282, 283; Curriculum, Instruction, and Media 410.	
Linguistics (course deemed appropriate by adviser).	
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Electives</i>	5
<i>Total</i>	120

¹In order to qualify for the professional semester assignment, students must have a grade point average of at least 2.25 in the major.

Social Studies (Major)

This program is designed to meet the needs of students who wish to teach social studies in the middle/junior high school or the senior high school. The graduate of this program will be qualified to teach social studies, history, political science, geography, sociology, and economics, based on requirements of the Illinois State Teacher Certification Board.

The complex nature of our competitive, pluralistic society mandates social studies curricula which prepare future citizens to comprehend and adjust to a changing social environment. The goal of the social studies program is to prepare prospective social studies teachers for the role of leadership in guiding middle school, junior, and senior high school students to live as effective citizens in a democratic society.

Content and professional course work provide the foundation used in the social studies methods course, where teaching methods and strategies are explored and experienced. A series of clinical experiences provide the social studies major an

opportunity to use the knowledge and skills acquired in the program. A cooperative teaching and university supervisor will assist the student blend knowledge and skills with adolescent behavior and curriculum needs.

General Studies Requirements..... 45
Including GSD 101 and 117, 118, or 119; 4 semester hours of mathematics; 2 semester hours of speech or other oral communication; GSE 201; 2 semester hours of physical education activity courses; one GSC literature course

Requirements for Major in Social Studies..... 50¹
GSB 300, 301, U.S. history elective..... (6) + 3
History 205a, 205b, world history, plus 3 hours at the 300 or 400 level..... 9
Economics 214, 215, economics elective..... 9
GSB 212, Political Science 213, political science elective..... 10
GSA 330, Geography 300, geography elective..... (3) + 5
GSB 104, 202, Sociology 301..... (6) + 4
Electives to be chosen from one of the three departments of anthropology, psychology, or sociology..... 7
Curriculum, Instruction and Media 469..... 3

Professional Education Requirements..... 25
See Teacher Education Requirements, page 63.

Total..... 120

¹Although the hours shown in parentheses are required for the major, they will also count toward the 45 hour requirement in General Studies

Courses

209-2 Philosophy of Creativity. The creative process in the developing child. Emphasis will be upon the levels, dimensions, and individuality of creativity as it is manifested, observed, and nurtured in preschool children. (To be taken concurrently with Child and Family 240 and 245 by early childhood preschool majors.)

213-2 Understanding the Elementary School Child. Child development concepts necessary for understanding the elementary school child, with information provided on preschool, primary, and intermediate grade levels.

258-1 to 4 Credit for Work Experience. This course includes work experiences relevant to the student's major program, such as work in day care centers, teacher's aid in public school, or with federal, state, or local agencies or programs that deal with children. Prerequisite: 12 semester hours completed with a grade of *B* or better in the student's major area of concentration in the CIM department and consent of undergraduate affairs committee, Department of Curriculum, Instruction, and Media.

312-3 Teaching Reading in the Elementary School. Examination of the reading process with emphasis on the factors and conditions that affect reading. Emphasis on the formulation of a philosophy of reading and its implications in relation to methods, materials, organizational procedures, and evaluation techniques.

315-3 Teaching Mathematics in the Elementary School. Objectives of mathematics education, learning theory as it is related to mathematics, major concepts to be taught, modern approaches to instruction, with emphasis on the use of concrete learning aids. Four class hours and two laboratory hours per week. Prerequisite: Mathematics 114 and 314, or consent of instructor.

316-2 Early Childhood Education Methods and Curriculum (K-3). Philosophy and principles underlying the teaching of four-to-eight-year olds. Emphasis upon organization, equipment, materials, and methods for promoting growth of young children. Prerequisite: concurrent enrollment in Education 302.

317-4 Early Childhood (Preschool) Curriculum I. Understanding the role of the teacher in integrating the principles underlying the child-development with the natural interests and activities of the child 3-5 through the use of equipment, materials, and educational methods. Emphasis will be on language and affective development. Practical experiences in a preschool setting one-half day per week. Prerequisite: 209 and Child and Family 240.

318-5 Early Childhood (Preschool) Curriculum II. Diagnosing factors in the preschool learning situation, prescribing learning experiences, assessing effectiveness of learning, and devel-

- oping inquiry. Emphasis on cognitive and psycho-motor development. Practical experiences in a preschool setting — one day or two one-half days per week. Prerequisite: 317.
- 324-2 Early Childhood Social Learning Methods.** The objectives, procedures, and methods of designing and implementing social learning environments for early childhood education programs; including an overview of significant early social learning theory and practice. Two hour block required for practicum experiences.
- 361-3 Teaching Reading in High School.** A foundation course in how to teach reading in junior and senior high school; developmental and remedial reading programs; appraisal of reading abilities; methods and materials of instruction in the content areas.
- 390-1 to 3 Readings.** In-depth reading in various areas of education as related to the fields of (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood education, (i) Elementary education, (m) Instruction, (n) Educational media. Prerequisite: consent of instructor.
- 393-1 to 6 Individual Research in Education.** The selection, investigation, and writing of a research topic under the personal supervision of a member of the departmental staff in one of the following areas: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood education, (i) Elementary education, (m) Instruction, (n) Educational media, and (o) Environmental education. Maximum of 6 hours to be counted toward a bachelor's degree. Prerequisite: consent of instructor.
- 400-2 Simulation and Gaming.** The role of simulation and gaming in instruction, the availability of commercial games and simulation devices, and the theoretical backgrounds used in constructing teacher-made games are to be examined.
- 402-3 Education for Disadvantaged and Culturally Different Students.** The student examines the characteristics of behavior and learning patterns of culturally different and socioeconomically disadvantaged children. Content also includes school adjustment, experiential background, self-concept, language development, and appropriate teacher behaviors and teachings strategies.
- 407-3 to 9 (3 per topic) Diagnostic and Corrective Techniques for the Classroom Teacher.** A presentation of diagnostic and remediation techniques with emphasis placed on appropriate methods and materials to be used in classrooms in the areas of (c) Language arts, (e) Mathematics, and (f) Reading. Prerequisite: special methods course in field selected by student and/or consent of instructor.
- 409-3 Creative Teaching.** To assist pre- and in-service teachers in acquiring methods and materials that will improve instruction in the public school classroom, with special attention to the characteristics and needs of students. Prerequisite: Education 302.
- 410-2 Creative Writing in the Public School.** Techniques of encouraging creative writings in the schools.
- 412-3 to 15 (3 per topic) Improvement of Instruction in Early Childhood Education (Preschool-Grade 3).** Examines recent findings, current practices, and materials used in early childhood education in the fields of (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, and (g) Social studies. Prerequisite: specialized methods course for the field of study selected by the student.
- 415-3 Improvement of Instruction in Middle School Mathematics (Grades 4-8).** Examines recent findings, current practices, and materials in the middle school setting. Prerequisite: 315 or consent of instructor.
- 418-2 History and Philosophy of Early Childhood Education.** A survey of the history and philosophies of early childhood education with its implication for current program practices. Student's analysis of their personal philosophy of early childhood education. Prerequisite: 316, 318, senior or graduate standing.
- 419-3 Parent Involvement in Education.** Materials, techniques, and resources suitable for use by teachers in helping parents and teachers to understand how they can help each other in the partnership responsibilities of the education of children from a variety of backgrounds. Prerequisite: 317, student teaching, or consent of instructor.
- 420-3 Teaching the Adult Functional Illiterate.** The emphasis in the course will be on understanding the problems of the individual whose literacy level does not permit full participation in the economic, social, and civic opportunities available to the majority of citizens. Prerequisite: permission of instructor.
- 423-3 Teaching Elementary School English Language Arts.** Oral and written communication processes with emphasis on the structure and process of the English language arts in the elementary school. Specific attention to the fundamentals of speaking English, writing, spelling, and listening. Study of learning materials, specialized equipment and resources.
- 424-3 Teaching Elementary School Social Studies.** Emphasis on the structure and process of teaching social studies in the elementary school setting. Specific attention to the fundamentals of developing social studies objectives, planning units, developing a general teaching model, organizing the curriculum, and evaluating behavioral change. Study of learning materials, specialized equipment, and resources.
- 426-3 An Introduction to Teaching Elementary School Science.** Content and methods of elementary school sciences, grades K-8. Emphasis on the materials and strategies for using both traditional and modern techniques of science education. One or more field trips.

427-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Botany 462). Specifically designed to develop those cognitive processes and concepts needed by elementary school teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

435-3 Literature for Children. Studies types of literature; analysis of literary qualities; selection and presentation of books and other media for children; and, integration of literature in preschool, elementary, and library settings.

436-2 Bibliography and Literature of Education. Introduction to the use of library resources for research in education. Includes bibliographies in education, the periodical literature, Office of Education publications, dissertation and thesis indexing services, and the Educational Resources Information Center (ERIC) materials. Students will compile bibliographies in their own fields of interest.

437-3 Educational Media in Training Programs in Business and Industry. For those persons interested in the role that media plays in current training practices in business and industry. Emphasis is directed toward an understanding of the rationale for using media, a review of the various methods utilized in training programs, an examination of current training media, and a description of methods used to measure and evaluate the effectiveness of training media. Includes an examination of the roles of professionals who develop media for training.

438-3 Introduction to Technical Services. Organization of library materials. Emphasis on cataloging and classification. Includes acquisition, processing, and circulation of materials. The Dewey Decimal classification system and Sears list of subject headings are stressed. Laboratory assignments.

439-3 Basic Reference Sources. Introduction to the principles and methods of reference work. Concentration on the study and examination of the tools which form the basic reference collection of the school and the community college library.

440-3 Selection of Media. Evaluation of print and non-print media; resources and services; competencies for efficient purchasing and selecting of media. Includes selection principles and problems for elementary, secondary, and community college libraries.

442-4 Administration of the School Media Program. Functions and management of elementary and secondary school library media programs with emphasis on services, personnel, financial aspects, facilities, and evaluation. Current issues and trends as reflected in the literature. Field trips to school library media centers.

445-3 Media for Young People. The selection and use of books and other educational media for students in the junior high and senior high school.

450-3 Photography for Teachers. Photography as a tool of communication in the modern school. Techniques of camera handling, visually planning a story, macro-photography, and color slides.

451-3 Photographic Preparation of Educational Media. Techniques of photography used in producing prints, overhead transparencies, daylight slides, high contrast materials, picture stories, filmstrips, and other photographic instructional materials. Prerequisite: 450 or consent of instructor.

453-3 Production of Educational Media I. Principles, skills, and techniques in the design and production of basic nonphotographic educational media. Experience includes applying lettering, coloring, and mounting techniques to projected and nonprojected media.

455-3 Organization and Production of Media for Self-Instruction. The study of various programming techniques and the procedures used in producing, designing, and evaluating materials used for self-instructional purposes. Includes organizing a teaching segment and producing the needed materials to create a self-instructional package.

458-3 Classroom Teaching with Television. Classroom utilization of open and closed circuit television. Emphasis is placed on the changed role of the classroom teacher who uses television. Evaluation of programming, technicalities of ETV, and definition of responsibilities are included. Demonstration and a tour of production facilities are provided.

462-3 Middle and Junior High School Programs. Focuses on the development of middle and junior high school curriculum and the identification of instructional activities which relate to the pre and early adolescent student. It is anticipated that the student will be able to plan and develop teaching units and evaluate procedures complementary to this portion of the school structure.

464-2 Student Activities. Analysis of extra-class activities and programs in public schools with a focus on the status, trends, organization, administration, and problems.

465-3 Advanced Teaching Methods. The focus is on a variety of teaching methods and strategies which are appropriate for secondary and/or post-secondary educators. Both individual and group methods are emphasized.

468-3 Science Methods for Junior and Senior High Schools. A performance-based approach to instructional skills common to teaching natural science at the junior and senior high school levels. Three class hours and one micro teaching laboratory hour per week. Prerequisite: Education 302 or consent of instructor.

469-3 Teaching Social Studies in the Secondary School. Emphasis is placed upon instructional strategies and curricular designs in social studies at the junior and senior high school levels.

- 481-3 Instructional Applications of Mainframe Computers.** Design, development, and programming of computer-assisted instructional materials using interactive, timesharing computer systems. Study of lesson design and programming, including branching and program flow, display techniques, response judging, teaching strategies, organization, and style.
- 483-3 Instructional Applications of Microcomputers.** A study of the history, development, and use of microcomputers and microcomputer systems in education. Emphasis is upon the characteristics, capabilities, applications, and implications of microcomputers and microcomputer lessons with case studies of their integration into the teaching learning process.
- 496-2 to 6 (2 to 4 per semester) Field Study Abroad.** Orientation and study before travel, readings, reports, and planned travel. Includes visits to cultural and educational institutions. Maximum credit hours in any term is 4.
- 498-1 to 15 (1 to 3 per topic) Workshops in Education.** Critical evaluation of innovative programs and practices. Acquaints teachers within a single school system or in a closely associated cluster of school systems with the philosophical and psychological considerations and methods of implementation of new programs and practices in each of the following areas: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood education, (i) Elementary Education, (j) The middle school, (k) Secondary education, (l) Disadvantaged children and youth, (m) Instruction, (n) Educational media, and (o) Environmental education. (p) Children's Literature. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.
- 500-3 Introduction to Research Methods in Education.**
- 501-3 Organization and Administration of Reading Programs.**
- 504-3 Systematic Approaches to Instruction.**
- 508-3 Supervision of Professional Education Experiences.**
- 509-3 Foundations of Environmental Education.**
- 510-3 Values Education Curriculum.**
- 511-3 Seminar in Psychology of Elementary School Subjects.**
- 512-3 Reading in the Elementary School.**
- 513-3 Kindergarten-Primary Reading.**
- 515-3 Advanced Remediation in Mathematics.**
- 517-3 Early Childhood Programs: Organization and Administration.**
- 518-3 Early Childhood Curriculum and Methods.**
- 520-3 The Language Arts in Bilingual Classrooms.**
- 521-8 (4,4) Diagnosis and Correction of Reading Disabilities.**
- 522-3 Teaching Reading Skills to College Students.**
- 523-3 Language Arts in the Elementary School.**
- 524-3 Teaching the Social Studies in the Elementary School.**
- 526-3 Problems in Elementary School Science Education.**
- 531-3 The Elementary School Curriculum.**
- 533-3 Instructional Leadership in Elementary Education.**
- 534-3 Organization of the Elementary School.**
- 538-3 Organization of the Nonbook Collection.**
- 539-3 Reference Services of the Media Program.**
- 540-3 Mass Communication in Education.**
- 542-3 Administration of an Educational Media Center.**
- 543-3 Automation of Information Centers.**
- 544-3 Community College Media Programs.**
- 546-3 The Library of Congress Classification Scheme.**
- 548-3 Production of Educational Media II.**
- 549-2 Designing Multi-Image Learning Materials.**
- 551-3 Survey of Research and Developments in Educational Media.**
- 553-2 Instructional Design.**
- 554-3 Utilization of Educational Media.**
- 555-3 Visual Communication.**
- 560-3 Instructional Television.**
- 561-3 Reading in the Secondary School.**
- 566-3 Instructional Strategies for Problem Solving.**
- 569-3 Principles and Trends in Secondary School Social Studies Education.**
- 571-3 Secondary School Curriculum.**
- 572-2 History and Philosophy of Bilingual/Bicultural Education.**
- 573-3 Perspectives on the Future and Its Schools.**
- 574-2 Psycho- and Sociolinguistic Considerations in A Bilingual/Bicultural Classroom.**
- 580-3 Current Developments in Major Subject Areas in Secondary Schools.**
- 582-3 Advanced Research Methods in Education.**
- 583-3 Instructional Theory, Principles, and Practices.**
- 584-3 Curriculum Theory, Foundations, and Principles.**
- 585-3 to 15 (3 per topic) Seminars in Education.**
- 586-3 Curriculum Design and Development.**

587-3 Curriculum Implementation and Evaluation.
589-3 The Work of the Director of Curriculum and Instruction.
590-1 to 15 (1 to 3 per topic) Independent Readings.
593-1 to 15 (1 to 3 per topic) Individual Research in Education.
594-2 to 9 per topic) Practicum.
595-2 to 8 per topic) Internship.
596-3 to 6 Independent Investigation.
599-2 to 6 Thesis.
600-1 to 32 (1 to 16 per semester) Dissertation.
601-1 to 12 per semester Continuing Research.

Dance (Minor)

(SEE PHYSICAL EDUCATION)

Dental Hygiene (Program, Major, Courses)

This program of study is designed to prepare the student to successfully enter the health profession of dental hygiene. Upon completion of the program, the graduate should be capable of passing the written National Board Examination, State/Regional Examination including the required clinical practical examination.

The primary role of dental hygienists is education and prevention of oral disease. Therefore, they must have a basic knowledge of the human body and a detailed knowledge of the oral cavity. The student develops skill, dexterity, and use of judgment in procedures relating to preventive dentistry on clinical patients scheduled in the dental hygiene clinic. Services provided by the dental hygienist are regulated by state laws which vary among the states, but all include the services of scaling and polishing teeth, x-ray examination, patient education and nutritional counseling, application of preventive medicaments, administrative procedures, chairside assisting, and some laboratory techniques. All the services must be performed under the supervision of a dentist.

Since the curriculum includes many science courses the entering student should have a thorough background in the basic sciences including chemistry, biology, and general sciences. Facilities limit enrollment to 56 students admitted only in the fall semester. Additional application information is required other than that required for admission to the University, including the results of the Dental Hygiene Aptitude Test. This test should be taken at the fall testing date a year prior to the fall semester of admission. Additional expenses of approximately \$2600 are required to cover the cost of instruments, uniforms, insurance, and other items in addition to textbooks.

The program is served by an advisory committee made up of practicing dentists and dental hygienists. These members include: dean, School of Dental Medicine, Southern Illinois University at Edwardsville; president, Southern Illinois Dental Society; dentist and dental hygienist; Veteran's Administration Hospital, Marion; dentist, Federal Penitentiary, Marion; president, Illinois Dental Association; chief, Division of Dental Health, Department of Public Health, State of Illinois; practicing dentists and dental hygienists, State of Illinois; and a student member.

A licensed dental hygienist may be employed in private practice offices, in school systems, in industrial health clinics, as civil service employees in government agencies or, with additional education, as a teacher in dental hygiene schools, in public health, in research, in administration, or as a commissioned officer in the armed services.

This associate degree program can be completed in two academic years, plus one summer session, at Southern Illinois University at Carbondale graduating with an Associate in Applied Science degree from the School of Technical Careers. This

program is fully accredited by the Council of Accreditation of the American Dental Association.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Dental Hygiene

GSA 209.....	3
GSB 202, 203.....	7
GSD 101, 152.....	5
Chemistry 140a,b.....	8
Microbiology 201.....	4
Physiology 301.....	4
Dental Hygiene 133, 136, 137a,b, 138, 201, 209, 210a,b, 211, 215, 217, 218a,b, 220a,b, 240, 241.....	57

Total 88

Courses

133-2 Histology and Embryology. The student will learn the microscopic components of the primary tissue groups of the human body and will be expected to identify microscopically in detail, the dental tissues of the oral cavity. The course also enables the student to relate the embryonic development of the head to the normal and abnormal structures of the adult head and oral cavity. Lecture two hours. Prerequisite: 136.

136-4 Cranial and Oral Anatomy. During the first part of the course, the student will study the detailed anatomic structures of the head and neck including skull, muscles, nerves, and blood supply. Following this, the student will learn to recognize and identify in detail the structures within the oral cavity including the tongue, salivary glands, lips and cheeks, and cheeks and teeth, both permanent and primary. Lecture three hours. Laboratory three hours.

137-10 (5,5) Pre-Clinical Dental Hygiene. (a) The student is introduced to the profession of dentistry with emphasis on the role and duties of a hygienist. Basic skills and techniques of instrumentation will be acquired using manikins in the laboratory followed by clinical experience on selected patients. Included will be didactic instruction in normal and abnormal tissue conditions, the role, function, and structure of calculus deposits. Additional skills, techniques, and procedures include clinical rules and procedures, aseptic technique, patient and operator positioning, rules of professionalism. Lecture two hours. Laboratory six hours. (b) The student will continue to apply information and skills learned in (a) on selected patients with varying oral hygiene needs. New information, procedures, and skills will be introduced during the course with the student expected to master one area before proceeding to the next. Included are complete health histories, office emergencies, charting for deposits and tissue conditions, auxiliary scaling instruments, rationale and techniques of polishing. The ability to perform basic dental health education and manage patients with specific physical and mental problems will be developed. Lecture two hours. Laboratory six hours. Must be taken in a,b sequence. Prerequisite: 136, 137a, 215, Chemistry 140a.

138-3 Pathology. The student will learn to recognize the appearance, causes, and body's responses to pathological conditions including congenital disorders, circulatory, and neurological ailments, tumors and neoplasms. Special attention will be placed on pathological conditions of the oral cavity including dental caries, periodontal disorders and lesions of the hard and soft tissues. The student will apply this knowledge by giving intra and extra oral examinations on selected patients and recording the findings. Lecture two hours. Prerequisite: 133, 136, 218b, Physiology 301, GSA 209, Microbiology 201; concurrent enrollment in 241.

201-4 Dental Materials and Assisting Techniques. The student will study the physical and chemical properties of various dental materials used in dental practice including plaster and stone, impression materials, synthetic resins, metals and cements. In the laboratory the student will manipulate those dental materials and recognize the effects of proper and improper techniques. Emphasis will be placed on dental assisting techniques for both operator and laboratory in the generalist and specialist type of practices. Lecture three hours. Laboratory three hours. Prerequisite: 209, 218b.

209-3 Dental Hygiene Clinic. The student will perform professional services of a hygienist on designated clinical patients and is expected to demonstrate improvement of skills covered in 137 a,b. Additional skills incorporated into clinical procedures include application of fluoride gels, maintenance and sharpening of scaling instruments, recognition and detection of carious lesions, extended or home care education, auxiliary polishing devices, caries etiology tests and nutritional counseling. Laboratory 12 hours, eight weeks. Prerequisite: 133, 137b, Chemistry 140b, Physiology 301.

210-12 (6,6) Clinical Dental Hygiene and Radiology. (a) The student will continue to perform

the professional services of a hygienist on designated clinical patients and will be expected to demonstrate improvement of skills covered in 137a,b and 209. Those skills incorporated into clinical procedures include application of fluoride gels, maintenance and sharpening of scaling instruments, recognition and detection of carious lesions, extended home care education, auxiliary polishing devices, caries etiology tests, and nutritional counseling. Dental radiographs will be taken on clinical patients as a part of required clinical experience. Laboratory 12 hours. Prerequisite: 209, 217, 218b, Microbiology 201. (b) The student continues clinical experience and is expected to show improvement in skills and abilities. Additional procedures include application of stannous fluoride, patient control programs, complete charting of the oral cavity, care of dental prosthesis, use of ultrasonic cleaning devices, measurement of periodontal pockets, and maintenance of dental equipment. Additional clinical experience is provided in the Veterans Administration hospital and our two mobile trailers. Students will continue to take dental radiographs on clinical patients as a part of required clinical experience. Laboratory 12 hours. Prerequisite: 138, 201, 210A, 240, 241.

211-2 Seminar. Theoretical content is presented covering procedures and techniques incorporated into the concurrent clinic course including instrumentation on hoes, files, and chisels. Additional requirements include emergencies, basic first aid, and the study of dental office business procedures to broaden the student's scope and capabilities as a member of the dental office team. Lecture two hours. Prerequisite: 215, 241; concurrent enrollment in 210b.

215-1 Ethics, Jurisprudence, and Office Management. The student will identify the rules of conduct and behavior that a dentist and hygienist must adhere to; differentiate between ethical and unethical, legal and illegal behavior, and understand the consequences of unethical and illegal acts relating to the practice of dentistry. Professional responsibilities and legal obligations of the dental profession and how to prevent a malpractice charge or lawsuit will be included.

217-2 Dental Nutrition. The biologic functions of essential nutrients are studied in their relation to growth and development of dental and oral tissues. Nutrition in health and disease is considered in detail; food sources of essential nutrients are identified. Knowledge gained is applied to the nutritional management and prevention of dental health problems in clinical practice through dietary counseling. Lecture four hours, eight weeks. Prerequisite: Chemistry 140 a, b; Physiology 301.

218-4 (2, 2) Dental Radiology. (a) The student will learn the techniques of exposing, processing, and mounting bitewing and periapical dental x-ray surveys, and will learn how x-rays are produced, hazards and precautions in using x-ray equipment, and the chemical composition and action of processing solutions on x-ray film. In the laboratory, the student will receive individual assistance in learning the techniques of exposing and processing films. (Lecture three hours. Laboratory three hours. Eight weeks.) Prerequisite: 136, 137a, Chemistry 140a. (b) The student will learn special dental survey techniques including paralleling, occlusal, and special views, and will identify anatomical landmarks and recognize appearance of pathological conditions as viewed on dental x-rays. In the laboratory the student will receive assistance in learning special survey techniques. Lecture one hour. Laboratory two hours. Must be taken in a,b sequence. Prerequisite: 133, 218a, GSA 209, Physiology 301.

220-6 (3,3) Community Dentistry. (a) Includes both the theoretical and practical aspects of preventive dentistry and public health. The student will discuss various methods utilized in developing, implementing, and evaluating plaque control and will have the opportunity to design a preventive dental program. In addition, the principles and practice of public health will be discussed. Emphasis is placed on the role of the dental hygienist in public health programs and related practical problems. Incidental expenses will be at least \$7.50 per semester. Lecture two hours. Laboratory two hours. (b) Continuation of public health with field experience. Dental health education with field experiences in student teaching in the elementary district schools. Incidental expenses will be at least \$7.50 per semester. Lecture two hours. Laboratory two hours. Must be taken in a,b sequence.

240-2 Dental Pharmacology and Anesthesia. The student will recognize the various types of drugs, their actions and effects on tissues of the body. Special emphasis will be placed on those drugs most commonly prescribed by the dentist. The student will study the anesthetics commonly used in a dental office and the techniques of administering them. Lecture two hours. Prerequisite: Chemistry 140B, Physiology 301, GSA 209, Microbiology 201.

241-2 Periodontology. The student will be introduced to the specialty of periodontics, including a review of the topics of classification, etiology, and the treatment of periodontal disease. Clinically, the student will perform a complete examination, scaling and root planing for the periodontal patient as presented in theory in this course. Consideration will also be given to special adaptations and recommendations of oral physiotherapy for the periodontal patient. Prerequisite: 209, 217, 218b, Microbiology 201; concurrent enrollment in 138.

Dental Laboratory Technology (Program, Major, Courses)

The dental laboratory technology program prepares the student to be a competent

dental technician in the commercial laboratory, an educational institution, a dental manufacturing company, or the private dental office. To implement the goal, the prospective student must satisfactorily meet the requirements of courses in both the dental laboratory area and in the science, business, and humanities area.

Persons interested in careers in dental technology should have a sincere interest in working with their hands and find satisfaction in their creative work.

Enrollment of beginning students is limited by size of faculty and physical facilities with new students admitted only in the fall semester. Additional application information is required other than that required for admission to the University.

An advisory committee whose members are drawn from the profession and from educational institutions serves the program. Current members are: Kathy Moore, dental technician, Hillsboro, Ill.; Sam Bono, dental technician, Florissant, Mo.; Tilghman S. Tade, CDT, Tade Dental Laboratory, Belleville; Jim Snodsmith, CDT, Snodsmith Dental Laboratory, Mt. Vernon; William Cotton, DDS, U.S. Naval Dental Research Institute, Bethesda, Md.; Gilbert Zoeller, DDS, Southern Illinois University Dental School, Alton; Dan Sullivan, Ney Gold Company, Kirkwood, Mo.; and Todd Toepper, TNT Dental Laboratory, Janesville, Wisc.

Graduates of the two-year dental laboratory technology program find that career opportunities are excellent. The trained dental technician not only has a wide choice of geographic location for the pursuit of a career, but can also choose working conditions. Graduates are employed by commercial dental laboratories, dental schools, dental supply companies, private dental offices, or are self-employed in their own dental laboratories.

The student should expect to spend about \$600 for a dental kit, laboratory jacket, Delta Tau Club, and recognized graduate exam fee over the two-year period.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Dental Laboratory Technology

GSD 101, 152	5
GSA 101, 106	6
School of Technical Careers 102, 120	5
Dental Laboratory Technology 102, 103a,b, 104a,b, 106, 113a,b, 128, 143, 200, 204a,b, 205, 206a,b, 210	61

Total 77

Courses

102-4.5 Tooth Anatomy Theory and Laboratory. The student will be able to write definitions on the nomenclature of teeth and their supportive structures; draw five different peripheral views of maxillary and mandibular teeth; carve maxillary and mandibular teeth in plaster, three times natural size and in wax, natural size. Lecture three hours. Laboratory 17 hours. Five weeks.

103A-4.5 Complete Dentures Theory and Laboratory. The student will be able to: write the steps of denture construction; identify and use impression materials, lab stone and lab plaster, acrylic resins, and articulators, namely the Hanau Model H and Whip-Mix; construct edentulous casts, individual trays, base plates, occlusal rims; and mount casts on the above named articulators. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 105.

103B-4.5 Advanced Complete Dentures Theory and Laboratory. The student will be able to: describe the theory inherent in all phases of full denture construction; set up teeth on the Hanau, Whip-Mix, and Simplex articulators; select and set teeth for different classes of arch forms; wax, invest, process and finish full dentures; rebase, reline, duplicate, and repair full dentures. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103A.

104A-4.5 Removable Partial Dentures Theory and Laboratory. The student will be able to: write the basic steps of partial denture construction; identify and use impression materials, laboratory stones, plaster, surveyors, waxes, and different types of forms of artificial teeth;

construct and mount master casts, survey and design partial denture cases, and arrange teeth. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103B.

104B-4.5 Advanced Removable Partial Denture Theory and Laboratory. The student will be able to: describe and do the planning, designing, and surveying of partial dentures; construct a refractory cast, wax, invest, and finish partial denture frameworks; set up artificial teeth on the partial frames; and repair broken partial. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 104A.

106-4.5 Dental Orthodontics and Pedodontics. The successful student will be able to fabricate a maxillary hawley, a mandibular hawley, holding arch, space maintainer, suture opener, tongue spikes, tongue crib, occlusal-palatal splint, space regainer, stabilizing plate, and bite planes and obturator; operate the soldering machine and equipment associated with it; write the gauges of wires that are used for the orthodontic appliances; and write the theory that is associated with the fabrication of the above named appliances. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 104b.

113A-2 Science of Dental Materials. The student will be able to: identify orally, as well as written, the uses and composition of dental gypsum products, namely, plaster, stones, and investments, impression materials, dental resins, dental cements, polishing agents, abrasives, and dental waxes. Lecture two hours.

113B-2 Science of Dental Materials. The student will be able to identify orally, as well as written, the physical and mechanical properties of metals and alloys, namely, dental golds, chrome cobalt alloys, and nickel cobalt alloys; the control of their physical properties, namely, strain hardening, alloying and heat treatment, the chemistry of tarnish and corrosion, gypsum investments for inlay procedures, casting and soldering techniques, and dental porcelains. Lecture two hours.

128-1 Oral Anatomy. The student will be able to identify the anatomical features of the head and oral cavity; identify the blood and nerve supply to the oral cavity and area; be able to list the muscles of mastication, and know the origin and insertion of each muscle; identify the anatomical parts of the maxilla and mandible; differentiate the movements of the mandible; and be able to identify the temporomandibular articulations. Lecture one hour.

143-1 Orientation to Dental Technology. The student will be able to identify pertinent dates and contributions made by people in the history of dentistry and the dental laboratory industry; identify specialties of dentistry and dental technology; identify organizations affiliated with the dental laboratory industry, identify ethics and laws regulating the dental profession, identify laboratory safety procedures, equipment maintenance and areas of possible cross contamination in the dental laboratory, and identify current issues of dentistry.

200-4.5 Dental Occlusion. The successful student will be able to draw peripheral views of maxillary and mandibular teeth, and identify the occlusal anatomy; write and identify the functions of the muscles of mastication including origins and insertions; write and identify the anatomy and function of the temporomandibular joint including ligaments; write and identify the nomenclature of occlusion; write and identify the theory inherent in occlusion; wax a maxillary and mandibular quadrant in cusp marginal ridge occlusion and cusp fossa occlusion; and wax a natural full mount rehabilitation case using the principles of occlusion discussed in lecture. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 102.

204A-4.5 Beginning Crown and Bridge Theory and Laboratory. The student will be able to: write the definitions of the nomenclature of beginning crown and bridge prosthetics; communicate orally, as well as written, the theory that is necessary for successful completion of the laboratory projects; construct amalgam, stone and copper plated dies; construct master and working casts; construct full and veneer crowns, acrylic jackets, inlays and onlays; and operate and maintain crown and bridge laboratory equipment. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 203.

204B-4.5 Advanced Crown and Bridge Theory and Laboratory. The student will be able to: write definitions of the nomenclature of advanced crown and bridge; identify soldering and heat treatment techniques; differentiate between different types of pontics, waxing, venting, and spruing techniques; write the theory inherent in broken stress bridgework, Steele's facing bridgework, telescope bridgework, and cantilever bridgework; list and perform techniques in crown and bridge repair; identify causes and remedies for porosity, open margins, and general casting failure in crown and bridge construction; and, construct a six-unit maxillary Steele's facing bridge, a five-unit broken stress bridge, and an eight unit telescope bridge. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 204A.

205-1 Dental Laboratory Management. The student will be able to identify how the following areas of management relate to the dental laboratory technician and the dental laboratory industry: principles and practices of management, marketing management, financial management, human resource management, and production management.

206A-4.5 Dental Ceramics Theory and Laboratory. The student will be able to: write definitions of the nomenclature of ceramics; identify porcelain constituents; identify the parts of the porcelain furnace and their use; construct platinum matrices; and, construct six maxillary porcelain jackets. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 200.

206B-4.5 Advanced Dental Ceramics Theory and Laboratory. The student will be able to: draw substructure design for single and multiple unit bridgework; write the theory of color

control, demonstrate the uses and maintenance of porcelain equipment, construct single and multiple unit porcelain to gold bridgework; and, demonstrate a working knowledge of staining and shade control. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 206A. 210-4.5 **Dental Laboratory Specialty.** The successful student will be able to fabricate dental prosthesis on practical laboratory cases in one of the following specialty areas: full dentures, partial dentures, crown and bridge, or ceramics. Laboratory 20 hours. Five weeks. Prerequisite: all of 100 and 200 level Dental Laboratory Technology Courses.

Design (Major, Courses)

The design program is a part of the Division of Comprehensive Planning and Design. Students take 15 hours of credit identified as fulfilling the common core content areas in the Division of Comprehensive Planning and Design.

Design is a creative professional activity which seeks to relate diverse technological and artistic information to specific human needs. It is a process related to varying bodies of facts. Within design, the appropriate and available resources will change depending on the problem but the skills and strategies used in striving for a comprehensive and anticipatory solution will remain comparatively consistent. The design program introduces these fundamental problem solving strategies and basic skills in a two-year core program. It is structured to allow the student to also fulfill General Studies requirements. By the end of the sophomore year, a student majoring in design should select one of the three areas of specialization.

Countrytown Design. Specialists study of the relationship of people to their environment, to place and occasion, to other people and institutions, to ideas and values which are a part of the physical manifestation of our society and a spatial expression of human activities and institutions. Career opportunities can be found in regional planning, city planning, and architecture.

Product Design. Specialists can look forward to careers designing humanly useful artifacts. Special attention is given to appropriate technology for alternative energy systems, products to facilitate the handicapped, and products suited to particular cultural environments. The emphasis placed upon "hands on" experience with the complete product design process from recognition of need, through the design, development, implementation, and replacement phases provides the student a comprehensive approach to work in the product design field.

Visual Communication Design. Specialists assist others to convey ideas, instructions, directions, and emotions by understanding their intentions and designing visual images suited to the purpose. Careers may be found in the graphics arts, the media, advertising, educational and public service fields.

The three specializations recognize as a goal the maintenance of an educational experience which fosters in individuals specialized technical and functional competence through an integration of both classroom studies and comprehensive projects representative of the profession. In addition, student and faculty engage in design related research and provide appropriate services to the university and the community. While the program maintains a graphic studio, darkrooms, wood and metal shops, some additional small tools and supplies will become necessary for each student to buy. Typical yearly expenses will usually exceed \$100, depending on course load and individual choice of projects.

Bachelor of Arts Degree, College of Human Resources

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Design</i>	75
Comprehensive Planning and Design Core Requirements	(3)* + 6
GSC 205, Comprehensive Planning and Design 306, 406a, b	

Design Core	48
Design 100, 102, 150, 152.	15
Design 200, 201, 202, 252, 254, 413, Industrial Technology 105.	21
6 hours selected from 300, 301, 302, 303, 350, 351, 352, 353, 354, Comprehensive Planning and Design 391.	6
6 hours selected from 401, 405, 450, Comprehensive Planning and Design 306, 406	6
Specialization Requirements.	21
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Total.	120

¹GSC 205 also meets a requirement in General Studies.

Design Specializations

Visual Communications: 322, 372, 373, 422, 423, 472 or other courses approved by the division.

Countrytown: 332, 333, 381, 432, 433 or other courses approved by the division.

Product Design: 312, 313, 362, 412, 413, 462, 463, 464, 465.

A special major may be planned with the approval of the director of the Division of Comprehensive Planning and Design.

Courses

Students will be expected to purchase their own materials in some of the courses offered in Design.

100-3 Structure and Form. The study of structure and form through examples selected from the world of natural objects, of man-made artifacts, and of abstract structures. Includes elementary model-building exercises.

102-5 Design Fundamentals. Dialogue, problems and experimentation are used to illuminate the creative problem-solving processes and fundamental cognitive skills of the designer. The individual engages in a variety of projects dealing with such subjects as visual communications, environmental planning, structures, and product design.

103-3 The Way Things Work. A study of various contemporary artifacts designed for our environment and how they work. This course will not be a technical course but a general overview of these artifacts and how they perform the functions they were designed for.

150-4 Foundations in 2-D and 3-D Design. Introduction to the principles of two and three dimensional relationships with emphasis on special techniques, elements of form, light, color, and increased perceptual skills.

152-3 Introduction of Systems Approach to Design. Course material covers the historical foundations of general systems theory and the search for universal principles underlying all open systems. The student is introduced to a unique set of principles for problem solving which apply to all aspects of the design process. Specific design problems will be used to demonstrate how the principles can be generally applied to a large variety of design functions, including the selection of alternatives and the optimization of the final product.

200-3 Basic Representation Fundamentals. Drawing fundamentals, basic freehand drawing principles, architectural sketching, and finished rendering techniques as used to solve design problems and communicate solutions.

201-3 Survey of Design. A critical study of a design field from prehistoric periods to the modern era with reference to the social, political, and technological movement which affected their development. Prerequisite: consent of chairperson.

202-3 Basic Materials and Processes. Introduction to tools and skills used in the manipulation of wood, metal, and plastics. Emphasis is placed on projects selected by the students to enhance their ability to solve problems in terms of specified materials and processes.

252-3 Human Engineering for Designers. An introduction to basic human-machine concepts specifically oriented to design students. Subjects include sensory and motor processes, space and arrangement, and environmental factors in design. Prerequisite: 152.

254-3 3-D Modeling Techniques/Basic Photography. This course is divided into two parts: an exploration into the techniques of three dimensional model making as a communication and research tool; and an introduction to the basic techniques of photographic image generation, experimentation in photographic techniques and materials, and transmission of ideas through the photographic image. Prerequisite: 102, 150, 152, 200, 201, 202, or consent of chairperson.

300-3 Graphic Reproduction. Exploration of the various techniques and methods utilized by the designer in preparing communication messages for production. Coursework will deal in

such topics as paste-up, keyline, scaling photography, cold type and photocomposition, typography, and offset duplication. Prerequisite: 254.

301-3 Structures for Designers. Description and design of elementary physical structures. Includes survey of architectural design. Introduces the computer as a tool for drawing geometrical forms.

302-3 Applied Systems Theory to Design. A pragmatic design course emphasizing the application of systems theory to the design of special environments; e.g., environments for the handicapped, the blind, paraplegics, the elderly, etc. Students have the option of selecting their own projects which they carry through from the conceptual and analytical stage to construction of models. Prerequisite: 152.

303-3 Design Foresight and Assessment. Introduction and overview of the foresight and assessment functions for designers. Includes an exploration of alternative futures and futures-creating methods, types and procedures of planning, implementation processes and techniques, and assessment of the consequences of proposed action.

304-3 Reprographics. An introduction to the field of reprographics, reproduction of images by means of office copying and duplicating equipment. Coursework will include an examination of the processes available, a survey of the equipment and methods, and graphic standards and techniques that can be utilized.

312-3 Product Design Analysis. An introduction to product evaluation techniques, such as human engineering, consumer safety, environmental impact, design liability, and patent protection.

313-3 Materials and Methods I. Exploration of methods, tools and materials for developmental prototyping.

322-3 Visual Communication I. Introduction to visual communication, including exploration of words, images, and symbols. Experimentation with graphic techniques and processes. Emphasis on solving basic visual communication problems. Prerequisite: 150, 152, 200 and 300.

332-3 Survey of Urban Design. Introduction to the study of human settlements. Estimation of the ways cities, landscapes, and buildings have been built. Critical analysis, through historical and contemporary case studies, of the major issues and problems of the urban environment as they affect the individual.

333-4 Urban Design I. Continuation and development of skills learned in core courses by work in projects of small scale dealing with a variety of environments. Prerequisite: 332 or concurrent enrollment.

342-3 Introduction to Computer Graphics. Introduction to the use of the computer in the production of graphic images. Topics include the definition of two- and three-dimensional data, the generation of engineering and perspective images, and animation. Prerequisite: Computer Science 202.

350-3 Research Methods for Designers. An exploration of research methods for designers, both qualitative and quantitative, including search methods, observational methods, experimental methods, and systems, simulation, and gaming methods.

351-3 Cross Cultural Problem Solving. Development of design projects within the cultural conditions outside of the United States through field study trips when possible to arrange or orient lectures and other insight material. A hypothetical follow through on the development of design projects within a selected country exposing sociological and marketing pertinent of ensuing limitations of that country.

352-3 Design Methodology. The processes of design, from recognition of a need, through definition of the problem, its analysis, synthesis and evaluation of feasible solutions; selected design methods will be explored, with special emphasis given to design science methodology.

353-3 Projected Images. Experimentation into various forms of projected images as a form of visual expression and documentation. Prerequisite: 150, 254 or concurrent enrollment.

354-3 Introduction to Design Science. An exploration of the seminal work of Buckminster Fuller: his philosophy, conceptual tools and generalized principles; introduction to synergetics; comprehensive anticipatory design science, and the World Game.

362-3 Product Development. Investigation and identification of significant product related human need areas. Application of development methodologies in selected product design projects.

372-3 Visual Communication II. An investigation of the theories and methods of visually communicating concepts and information. Emphasis is placed on the analysis of the communications need and progresses through the production of items in prototype form. Prerequisite: 102, 254 or concurrent enrollment, 322 or consent of chairperson.

373-3 Serigraphy. Introduction to serigraphy (silk screen printing) as a tool of visual communication. The course will be especially useful in providing the graphic reproductive capability for testing designs made in other classes. Various kinds of stencils will be explored: photographic as well as handmade. Prerequisite: 254.

380-2 Environmental Aspects of Urban Planning. Study of the needs of environmental control, including thermal, luminous, sanitary, and acoustic aspects of building and urban environments, building systems, and urban developments.

381-4 Urban Design II. Continuation of Urban Design I with emphasis on projects of greater scale. Educational environments and others of a socially useful nature will be examined.

Prerequisite: 333, 380 or concurrent enrollment, consent of chairperson, and declared specialization in urban design.

392-3 Elementary Topics in Computer Aided Design. Elementary application of computers to the design process. Selected topics include structural studies, environmental systems, architectural design, and system analysis. **Prerequisite:** 342, Computer Science 202 or consent of instructor.

401-3 Problem Solving in Applied Design. A design team approach solving real problems utilizing the methods and techniques acquired in the design program. **Prerequisite:** senior standing or consent of instructor.

405-3 Environmental Graphics. An introduction to the theory and practice of designing meaningful symbols for the public environment, including spatial perception and typography as related to signage systems, imagery, symbols, color, and light. Not for graduate credit.

412-4 Practicum in Product Design. Advanced comprehensive product design projects developed into production prototypes. Not for graduate credit.

413-3 Professional Practice in Product Design. The study of designer/client relationships, business practices, design office procedures, and professional ethics. **Prerequisite:** senior standing or consent of instructor.

422-3 Visual Communication III. Principles of visual message making and investigation of symbols as they are used in communication. Study includes the development of contemporary communication techniques including photographs, topography, color, and illustration as well as learning to identify techniques and processes of communication. Not for graduate credit. **Prerequisite:** 372.

423-3 Multi-Media Exploration. Experimentation into various forms of electronic and sensory media as a form of visual expression, documentation, and research. Film making, animation techniques, 35mm slide format and VTR will be explored. Not for graduate credit. **Prerequisite:** 372 and 373.

432-3 Landscape Architecture. Study of the principles of urban and regional landscape architecture and an introduction to the elements of landscape and architecture. Site analysis and site planning are studied in relation to structures and large scale developments. Technical aspects of site development are stressed. **Prerequisite:** 333.

433-4 Urban Design III. Continuation of Urban Design II with emphasis on client interaction. Projects dealing with community groups and advocacy planning needs will be dealt with where appropriate. Not for graduate credit. **Prerequisite:** 381.

450-1 to 6 Internship. Supervised work experience related to student's academic program and career objectives. Not repeatable for credit. Not for graduate credit. **Prerequisite:** consent of chairperson. **Mandatory Pass/Fail.**

462-4 Research in Product Design. An in-depth investigation and exploitation of a selected production material (plywood, sheet metal, plastic sheeting, etc.) **Prerequisite:** senior standing or consent of instructor.

463-4 Products for Special Populations. Products for special subset groups within greater population norms. May be of cross-cultural and interdisciplinary implementation. Not for graduate credit.

464-4 Environmentally-Integrated Products. Development of products integral to comprehensive environmental planning. Not for graduate credit.

465-2 to 4 Independent Study in Product Design. Creative project developed by student and faculty sponsor and approved by director. **Prerequisite:** 462.

472-3 Visual Communication IV. Advanced problems in visual communication: the development of a corporate identity. Assigned projects simulate design studio procedures for solving contemporary visual identity problems. **Prerequisite:** 422.

Early Childhood Education

(SEE CURRICULUM, INSTRUCTION, AND MEDIA)

Earth Science (Minor)

This course of study is designed for the student with an interest in the interdependent dynamic processes that take place on and near the earth's surface. At present the program is structured to complement a major in another discipline. This work may be taken through the College of Liberal Arts, the College of Science, or the College of Education.

A minor in earth science consists of a core program of 15-17 hours and 7 to 9 hours of electives, as follows:

Core Program	15-17
GSA 110, GSA 330 or Geography 331 and Geography 302	
Plant and Soil Science 346 or GSA 312	
Geology 221 or 400	
Electives	7-9
Appropriate substitutions may be made with the approval of the adviser.	
GSA 322, 240	
Geography 310, 432, 424, 438	
Geology 425	
Plant and Soil Science 240	

Economics (Department, Major, Courses)

The study of economics provides a useful means of analyzing the behavior of consumers, businesses, and government so that the student can better understand many of the problems facing contemporary society. Majoring in economics gives the student an analytical ability and flexibility that is attractive to a wide range of employers in both business and government. Economics is also an excellent major for students who are considering graduate school in law, business, or any of the social sciences.

The economics major in the College of Liberal Arts provides a flexible program with 29 to 36 hours of electives. This flexibility allows the student to follow a program oriented toward a wide range of careers in government and business or to prepare for graduate study in any of several areas.

Economics courses at the 300 level generally require only a limited background in introductory economics, while many economics courses at the 400 level require Economics 340 (440) and 341 (441) as prerequisites. Students considering graduate study in economics should also plan to take Economics 340 and 341 as early in their college careers as possible and should choose several courses at the 400 level to complete their major requirements. A student considering graduate study in economics should also plan to take Mathematics 139 and 140 or 111 and 150 (the latter two courses are better preparation for additional courses in mathematics).

For transfer students, equivalent economics courses will be accepted from other institutions. However, to complete a major in economics, a student must earn credit in no fewer than five economics courses taken at Southern Illinois University at Carbondale. To complete a minor in economics, a student must earn credit in no fewer than three economics courses taken at Southern Illinois University at Carbondale.

Students are urged to discuss their major programs with the director of undergraduate studies or with any other professor in the Department of Economics; the department also has a director of career information and placement available for consultation.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72)	(4) + 8-14
<i>Requirements for Major in Economics</i>	31-32
One course from the following all of which are approved substitutes for GSD 107: Mathematics 117, 140, 150. The student will automatically satisfy a portion of the General Studies Area D requirements with any one of these courses. Four hours are already included in total hours shown for General Studies Requirements	(4) + 0-1
Economics 214, 215, 340, 341, 308.	16
Any five remaining economics courses except 301.	15

Electives	29-36
Total	120

Honors Program

Students who are economics majors and working toward a Bachelor of Arts degree in the College of Liberal Arts may choose to enter the Honors Program if they have a minimum cumulative grade point average of 3.0 in all prior courses in economics.

As part of the ten economics courses required for a major, students in the honors program will be required to take 443 and any two other 400-level economics courses, except 425, 440, 441, 471, and 479.

In order to be granted departmental honors, a student must have attained at graduation, a minimum cumulative grade point average of 3.0 in economics courses taken.

Minor

For students majoring in other departments, a minor in economics is useful for employment in business or government and for graduate work in any of the social sciences, law, or business. The minor requires 15 hours of work in economics including Economics 214 and 215. Approval of the minor program by the director of undergraduate studies is required in order to assist students in designing coherent programs to meet their individual interests.

Courses

214-3 Introduction to Macroeconomics. Determination of income, employment, output and price levels in the national economy; government taxation, expenditure, and monetary policies to solve problems such as inflation and unemployment. Elective Pass/Fail.

215-3 Introduction to Microeconomics. Study of businesses, consumers and the government and their effects on prices, output and income distribution. Current economic problems will be used as illustrative examples. Elective Pass/Fail.

300-3 to 9 Contemporary Economic Problems. A study of one or more contemporary economic problems. Problems chosen vary from semester to semester and the topic will be announced in advance. Prerequisite: 214, 215 or GSB 211 or consent of instructor. Elective Pass/Fail.

301-1 to 6 Economic Readings. Readings in books and periodicals in a defined field, under direction of one or more faculty members. Periodic written and oral reports. Prerequisite: consent of instructor and department chairperson. Elective Pass/Fail.

303-3 Poverty and the Economy. Poverty as a study of income inequality. Economic determinants of income inequality are isolated and related to current policy proposals. Elective Pass/Fail.

304-3 Economics of the Welfare State. Analysis of programs and proposals attacking poverty, insecurity, inequality of opportunity, and maldistribution of income. Analyzes such programs as social security, unemployment compensation, medical care, income maintenance, public assistance, housing, and job creation. Economic foundations and consequences are linked with social and political problems. Elective Pass/Fail.

308-4 Economic and Business Statistics. Survey of the foundations and applications of the principal statistical methods used in economic and business decision making. Included are probability theory, probability distributions, and testing of hypotheses about, and estimation of, the important types of population parameters. Elective Pass/Fail.

310-3 Labor Problems. A comprehensive overview of the relation of labor to the United States economy. Included are the history of labor in the United States; analysis of institutions affecting labor; the theory of wage and employment determination; as well as analyses of unions and collective bargaining, discrimination, unemployment, and the distribution of income. Prerequisite: 215 or consent of instructor. Elective Pass/Fail.

312-3 Collective Bargaining and Dispute Settlement. An analysis of the economic social effects of collective bargaining with an examination of its legal framework in the private and public sectors. Special attention to issues discussed in bargaining and to procedures for settling disputes. Readings and cases. Prerequisite: 310 or consent of instructor. Elective Pass/Fail.

315-3 Money and Banking I. Study of the operation of the money and banking system in the United States. Stresses Federal Reserve control of the money supply and credit conditions to combat inflation and unemployment. Monetary arrangements and problems among nations are also considered. Prerequisite: 214 or consent of instructor. Elective Pass/Fail.

318-3 Economic History of Europe. The economic growth and development of the European

economies from the middle ages to the common market. Topics include the rise of the market system, the development of capitalism and the systematic growth of European economic integration. Prerequisite: 214 or GSB 311 or consent of instructor. Elective Pass/Fail.

320-3 Economic History of the United States. The dynamic process of American economic growth and development from its colonial beginnings to its status as world economic power. Particular emphasis is given to the changing role of the United States in the developing world economy and the contribution of changing economic institutions to the character and pace of American economic growth. Prerequisite: 214 or consent of instructor. Elective Pass/Fail.

322-3 Introduction to Economic Development. An analysis of the preconditions, processes, and problems involved in economic development. Both the theory and policy relevant to development, with special emphasis on the developing or emerging economies, are stressed. Prerequisite: 214 and 215 or consent of instructor. Elective Pass/Fail.

323-2 Operation of Public Utilities. (Same as Engineering Technology 323.) The study of public utilities regulation, electrical utility, load factors, rates fixed, and operating costs, power plant economics, and distribution policy. Prerequisite: GSB 211 or consent of instructor. Elective Pass/Fail.

329-3 Introduction to International Economics. Introduction to the principles of international economics. Stresses the relationship between the balance of payments and the United States economy, the determinants of deficits and surpluses, and policy options to correct an imbalance. Prerequisite: 214 and 215 or consent of instructor. Elective Pass/Fail.

330-3 Public Finance. Effects of government spending and taxing activities on the rest of the economy. Analysis of government debt, the federal budgetary process, and various taxes used in the United States. Prerequisite: 215 or consent of instructor. Elective Pass/Fail.

333-3 Economics of the Environment. Factors which lead to physical and human deterioration in a market economy. Consideration of solutions to such problems as urban decay, overpopulation, and pollution. Prerequisite: 214, 215 or consent of instructor. Elective Pass/Fail.

334-3 Health Economics. Factors underlying the demand for and supply of health and medical care services. Included are the market, voluntary nonprofit, and governmental sectors of the industry. Special topics are the regional coordination of hospital facilities and services, the consumer price index and the measurement of benefits and costs of control programs.

340-3 Intermediate Microeconomics. A survey of theories of household, firm, and government economic behavior in the determination of competitive and non-competitive market prices. Emphasis is on understanding the United States economic system and on evaluating existing and proposed government microeconomic policies designed to improve the system. Not open to students who have had Economics 440. Prerequisite: 215 or consent of instructor. Elective Pass/Fail.

341-3 Intermediate Macroeconomics. The determinants of fluctuations in aggregate economic activity, unemployment and inflation. An analysis of the behavior of consumption and investment, the impact of government monetary and fiscal policies, and factors affecting the rate of economic growth. Not open to students who have had Economics 441. Prerequisite: 214 or consent of instructor. Elective Pass/Fail.

361-3 Regional and Urban Economics. A survey of regional and urban economic growth and the associated problems, including disparities among regions in income and employment. Examination of governmental policies aimed at reducing or eliminating such problems as depressed areas and urban blight. Prerequisite: 214 or 215 or consent of instructor. Elective Pass/Fail.

375-3 Economics of Antitrust. An economic analysis of government policies intended to limit and/or control the exercise of private monopoly power. Prerequisite: 215 or consent of instructor. Elective Pass/Fail.

416-3 Money and Banking II. An examination of the principal institutions whose joint actions determine the supply of money in the United States economy. Emphasis is placed on the commercial bank operating as a firm within the Federal Reserve System. Policy issues are examined for the regulation of the banking industry as well as for the control of the domestic money supply. Prerequisite: 315 or 340 or 341 or consent of instructor. Elective Pass/Fail.

419-3 Latin American Economic Development. Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment, and agrarian reform. Prerequisite: 322 or 340 or 341 or consent of instructor. Elective Pass/Fail.

420-3 The History of American Growth in the 20th Century. An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment, and others. Prerequisite: 340 or 341 or consent of instructor. Elective Pass/Fail.

425-4 Economics in Geography and Planning. (Same as Geography 422.) Concepts, symbols, language, theory, elementary mathematics of economics, and geography. Individual's preferences, production functions, the firm, markets optimality, externalities, and welfare eco-

nomics. Elementary mathematics of time and intertemporal criteria. Prerequisite: Geography 300 or consent of instructor. Elective Pass/Fail.

429-3 International Trade and Finance. Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340 and 341 or consent of instructor. Elective Pass/Fail.

431-3 Public Finance II. State and local. Analysis of the economic effects, problems, and alternative solutions concerning state and local government expenditures, revenues, and debt. Prerequisite: 330 or 340 or 341 or consent of instructor. Elective Pass/Fail.

436-3 Government and Labor. (Same as Political Science 428.) Influence of government and law on collective bargaining, on the internal operation of unions, and on job discrimination in the public and private sectors. Prerequisite: GSB 211 and 212 or equivalents or consent of instructor. Elective Pass/Fail.

440-3 Price, Output, and Allocation Theories. A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 215 or consent of instructor. Elective Pass/Fail.

441-3 Contemporary Macroeconomic Theory. An examination in the causes of inflation, unemployment, and fluctuations in aggregate economic activity, factors affecting consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary, and incomes policies facing the United States government. Not open to students who have had 341. Prerequisite: 214 or consent of instructor. Elective Pass/Fail.

442-3 Monopoly and Competition in the Industrial State. A survey of economic theories and empirical studies on the nature and consequences of business rivalry in imperfectly competitive markets. Prerequisite: 340 or 440 or consent of instructor. Elective Pass/Fail.

443-3 Honors Seminar in Economics. Application of the tools of economic analysis to the study of contemporary social problems. Enrollment limited to economics majors who have a minimum cumulative grade point average of 3.0 or higher in all prior economics courses. Economics graduate students are not permitted to enroll in this course. Prerequisite: 340 and 341.

450-3 History of Economic Thought. An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust, and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen, and Keynes are highlighted and major schools of economic thought are identified. Prerequisite: 214 and 215; or GSB 211; or consent of instructor. Elective Pass/Fail.

465-3 Mathematical Economics I. A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440, and Mathematics 117 or 140, or consent of instructor. Elective Pass/Fail.

467-3 Introduction to Econometrics. Introduction to the use of statistical inference and distribution theory for measuring and testing economic theory. Emphasis placed on the linear model, least square estimation, hypothesis testing, and the underlying assumptions. Prerequisite: 308 or consent of instructor. Elective Pass/Fail.

471-3 Land Resource Economics. (See Agribusiness Economics 440.) Elective Pass/Fail.

479-3 Problems in Business and Economics. (Same as Administrative Sciences 479.) Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 215; 308 or Administrative Sciences 208; Marketing 304. Elective Pass/Fail.

481-3 Comparative Economic Systems. Capitalism, socialism, communism, and other forms of social organization are examined from a theoretical point of view. Economic and social theories from Adam Smith and Karl Marx to Milton Friedman and Paul Sweezy will be examined. Prerequisite: 340 or 440 or consent of instructor. Elective Pass/Fail.

500-3 to 24 (3 per topic) Economics Seminar.

501-1 to 21 Economics Readings.

502-1 to 4 Readings in Resource Economics.

507-1 to 4 (1, 1, 1, 1) Practicum in Undergraduate Teaching.

510-2 Research in Economics: Design, Methodology, and Presentation.

512-3 Seminar in Labor Institutions.

517-3 Monetary Theory and Policy.

518-3 Monetary Theory and Policy II.

520-6 (3, 3) Economic Development Theory and Policy.

522-3 Microeconomic Foundations of Labor Markets.

525-4 Seminar in Economics in Geography and Planning.

530-3 Foreign Trade.

531-3 International Finance.

532-3 Economics of Human Resources.

533-3 Public Finance Theory and Practice.

534-3 Economics of Taxation.

540A-3 Microeconomic Theory I.
 540B-3 Microeconomic Theory II.
 540C-3 Microeconomic Theory III.
 541-6 (3, 3) Macroeconomic Theory I and II.
 545-3 Energy Economics.
 546-3 Workshop in Energy Economics.
 552-3 Seminar in Economic Thought.
 555-3 Seminar in Economic History.
 562-3 Seminar in Economic Systems.
 565-3 Applied Econometric Analysis.
 566-3 Mathematical Economics II.
 567-6 (3, 3) Econometrics I and II.
 570-3 Seminar in Contemporary Microeconomic Theory.
 571-3 Seminar in Contemporary Macroeconomic Theory.
 583-3 Methodological Foundations of Economics.
 585-3 Seminar in Social Economy.
 590-1 to 8 (1 per semester) Seminar in Contemporary Economics.
 599-1 to 6 Thesis.
 600-1 to 36 (1 to 16 per semester) Doctoral Dissertation.
 601-1 to 12 per semester Continuing Research.

Education (Courses)

Courses

200-1 to 10 **Experimental Education.** Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.
 201-1 **The Teacher's Role in Public School Education.** Designed to assist students in confirming their thinking concerning the desirability of pursuing a career in teaching. A requirement in the professional education sequence, this course is available at the freshman level and is prerequisite to admission to the Teacher Education Program. Two-day long observation field trips to elementary and secondary schools are required during the semester in which 201 is completed. Mandatory Pass/Fail.
 258-1 to 4 **Credit for Work Experience.** Credit granted for prior work experience relevant to the student's major program in which specific experiences with children or youth can be documented. Prerequisite: 201, 302, and consent of the coordinator of professional education experiences.
 259-1 to 60 **Occupational Education Credit.** Credit for educational experiences in training schools and institutes relevant to the particular departmental program. Credit hours to be determined by the associate dean for undergraduate studies.
 300-1 to 10 **Experimental Education.** Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.
 301-2 **Human Growth, Development, and Learning.** A requirement in the professional education sequence. Deals with factors involved in the teaching-learning process including: cognitive development, socio-personal characteristics, socio-cultural characteristics, motivation for learning, and principles of school learning. Two hours lecture; one hour laboratory. Prerequisite: GSB 202 or equivalent, admission to the Teacher Education Program.
 302-2 **Basic Techniques and Procedures in Instruction.** A requirement in the professional education sequence. Techniques and procedures applicable to effective teaching including the topics: planning for instruction, strategies for instruction, assessment and evaluation, and classroom management. During the semester when enrolled in 302, each student is required to spend one-half day per week doing observation and participation activities in public schools or other appropriate settings. Prerequisite: admission to the Teacher Education Program.
 303-2 **School and Society: Historical, Sociological, and Philosophical Perspectives.** A requirement in the professional education sequence. Fulfills the minimum state certification requirement in the history and/or philosophy of education. Assists students in developing and understanding of the organization, function, and role of schools in the United States. Prerequisite: admission to the Teacher Education Program.
 304-2 to 16 (2, 2, 2, 2, 2, 2) **Individualization in Professional Education.** A series of courses dealing with various aspects of professional education. One course must be selected as part of the professional education sequence requirement. (a) Educational media. Selection and utilization of audiovisual materials in the learning environment, elementary through secondary level. Audiovisual machine laboratory is required. (b) Career education. Principles and practices of career education K-adult. Classroom study and field experiences. Understanding administration and curricular organizations at various levels and in various agencies. Field

trip fee \$10 (c) **Evaluation in the Classroom.** Construction and use of evaluation instruments intended to assess learning especially in the public school settings. (d) **Teaching in the middle and junior high school.** The role of the middle and junior high school in the present school structure. A focus on the curriculum, learning, and instruction patterns unique to this area. (e) **Teaching the special needs learner.** Emphasizes an understanding of special needs learners (e.g., educationally disadvantaged youth) and the development of strategies which are effective in teaching them. (f) **Teaching and affective education.** The affective domain of educational objectives. Emphasis given to a theory of values and strategies for the clarification of values; the process of valuing as an operation of teaching. (g) **Discipline and classroom management.** Techniques and procedures intended to provide teachers with skills for managing groups of students. Content includes group dynamics and leadership skills. (h) **Extra-curricular activities in the junior high and senior high school.** An overview of the extra-curricular activity program in secondary schools, focusing on the various types of activities, the role of the teacher as sponsor, adviser or coach, and the function of the activity program as a part of the total curriculum of the school. Prerequisite: admission to the Teacher Education Program.

312-1 to 8 Field Observation and Participation. Allows the pre-service teacher education student to observe and participate in activities and experiences relating to the offerings of their major department. These experiences will be correlated with the offerings of the student's major department, and the experiences will be designed to meet the needs of the individual student. Enrollment in this course will be coordinated by the student's major department. Placement in public school settings will be coordinated by the Office of Professional Education Experiences. Prerequisite: 301, 302, 303, or concurrent enrollment.

350-3 Seminars in Professional Education. A requirement in the professional education sequence. Concentrates on situations, events, and issues that frequently arise in public school work. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 400 and 401. Mandatory Pass/Fail.

400-4 Student Teaching. A requirement in the undergraduate Professional Education Sequence, 400 represents preliminary student teaching experiences necessary for certification entitlement. Enrollment in this course must be arranged through the Office of Professional Education Experiences. For undergraduate credit only. Students majoring in special education and seeking entitlement to more than one teaching certificate in the State of Illinois may in certain instances be allowed credit for up to 8 semester hours of Education 400. Such increase in hours shall be contingent on the student enrolling in 4 hours of Education 400 in each of two semesters, and shall require the written permission of the coordinator of professional education experiences. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 350 and 401.

401-8 Student Teaching. A requirement in the undergraduate professional education sequence, 401 concludes the student teaching experience necessary for certification entitlement. Enrollment in this course must be arranged through the Office of Professional Education Experiences. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 350 and 400.

450-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

550-1 to 10 Experimental Education.

590-4 Doctoral Seminar in Cultural Foundations of Education.

591-4 Doctoral Seminar in Behavioral Foundations of Education.

Educational Leadership

(Department, Major [Graduate only], Courses)

The Department of Educational Leadership does not offer an undergraduate major but offers courses for undergraduate credit over a broad range of subject matter in cultural and legal foundations of education.

Courses

354-3 Philosophy of Education. (Same as Philosophy 355.) Intended primarily for those interested in education as a profession. Schools of philosophy are reviewed as they relate to education, and students are encouraged to develop and apply philosophic thought to the practices and problems of education.

360-3 Subcultures in American Education. Poverty, racial prejudice, and various subcultural issues as may relate to American educational development. Analysis of conflicting systems of cultural values and norms and their implications.

- 421-3 **The Law, The Teacher, and The Student.** Legislative and case law including civil rights and responsibilities for the teacher and for the student.
- 430-3 **History of Education in the United States.** An historical study of the problems of American education.
- 432-3 **Education and Social Forces.** A study of the social forces that shape educational policies in the United States.
- 454-3 **Contrasting Philosophies of Education.** An examination of current educational problems and trends in the light of contrasting philosophies of education.
- 455-3 **Introduction to Adult and Continuing Education.** Introduces the multifaceted areas of adult and continuing education in traditional and non-traditional settings by reviewing and studying philosophies, directions, program efforts, and activities associated with them.
- 465-3 **Organization and Administration of Adult and Community Education Programs.** Review of methods and procedures for working with various types of adult programs and populations, for administering adult curricula programs and staff for using area and state social services, and for program funding are the primary emphases of this course.
- 475-3 **Administration of Staff Development Programs in Adult and Continuing Education.** Review and examination of the needs, problems, administrative requirement, and alternatives available for staff development in adult and continuing education. Emphasis will be placed on needs assessments, planning, and designing inservice or staff development programs to meet institutional needs and individual professional needs.
- 485-9 (3, 3, 3) **Workshop in Adult and Continuing Education.** The foci for these workshops are to provide quality education experiences for students and practitioners in the field of adult and continuing education in three major areas: (a) the adult learner, (b) improvement of instruction and programs in adult education, and (c) evaluation in adult education.
- 500-3 **Educational Research Methods.**
- 501-3 **Educational Administration: Tasks and Processes.**
- 503-3 **Educational Administration: Introduction to Theory.**
- 505-2 **Organization and Administration of the Middle and Junior High School.**
- 507-3 **Secondary School Principalship.**
- 509-3 **School-Community Relations and Development.**
- 510-3 **Foundations of Adult Education.**
- 511-3 **Organization and Administration of Curriculum.**
- 513-3 **Supervision of Instruction.**
- 515-1 to 12 **Current Issues in Educational Administration.**
- 517-3 **The Legal Framework of Education.**
- 519-3 **Illinois School Law.**
- 521-3 **School Facilities.**
- 523-3 **Systems Analysis: An Application to Education.**
- 525-3 **School Finance Theory.**
- 527-3 **School Business Administration.**
- 529-3 **Supervision of Personnel: Problems.**
- 530-3 **Historical Research in Education.**
- 531-3 **School Boards and Policies.**
- 533-3 **Elementary School Principalship.**
- 539-3 **Evaluation and Accreditation in Schools.**
- 541-3 **Personnel Evaluation.**
- 551-3 **Educational Leadership: Politics of Education.**
- 552-3 **Seminar in Comparative Education.**
- 553-3 **Educational Leadership: Systems and Accountability.**
- 554-3 **Seminar in Philosophy of Education.**
- 555-3 **Advanced Educational Administration Theory.**
- 556-3 **Seminar in History of European Education.**
- 558-3 to 9 (3, 3, 3) **Advanced Seminar in Comparative Education.**
- 559-3 **Interdisciplinary Seminar in Educational Administration: I.**
- 560-3 **Education and Culture.**
- 561-3 **Interdisciplinary Seminar in Educational Administration: II.**
- 562-3 **Education and the American Way of Life.**
- 564-3 **Education and the Challenges of the Twentieth Century.**
- 565-3 **Continuing Education and Extension Services.**
- 575-3 **Seminar in Adult and Continuing Education.**
- 588-3 to 9 **General Graduate Seminar.**
- 590-1 to 6 **Readings.**
- 593-1 to 3 **per topic Individual Research.**
- 595-1 to 8 **Internship.**
- 596-1 to 6 **Independent Investigation.**
- 597-1 to 8 **Externship.**
- 599-1 to 6 **Thesis.**
- 600-1 to 36 (1 to 16 per semester) **Dissertation.**
- 601-1 to 12 **per semester Continuing Research.**

Educational Media

(SEE CURRICULUM, INSTRUCTION, AND MEDIA)

Electrical Sciences and System Engineering

(SEE ENGINEERING)

Electronic Data Processing (Program, Major, Courses)

The growth of electronic data processing in both the expansion of installations and in the complexity of hardware and software has increased the need for competent computer programmers and systems analysts. The need for persons trained only on unit record equipment, however, is decreasing.

The curriculum in electronic data processing at the School of Technical Careers prepares students for employment as business computer programmers and systems analysts. Skills which the graduate obtains include competency in programming languages (such as COBOL, Assembler, and RPG) and associated areas such as accounting and systems design and development.

An outstanding feature of the program at the School of Technical Careers is the availability of an IBM 370 computer system for batch and interactive use. The hardware and software configuration is representative of large computer installations in industry. The data center is accessible for approximately 100 hours per week.

The student should plan to spend small amounts for special laboratory materials.

An advisory committee of professional people and educators helps to keep the program responsive to needs in the field. Current members are: Ellis T. Bick, division data systems manager, Southwestern Bell Telephone Company, St. Louis, Mo.; Edward Long, data processing manager, City of Carbondale; John Crawford, vice president, Horace Mann, Springfield; and Thomas Purcell, institutional research, Southern Illinois University at Carbondale.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Electronic Data Processing

GSD 101, 152 or 153.....	5-6
School of Technical Careers 120, 220, 210a and 102 or GSD 118.....	10
Electronic Data Processing 101, 102, 103, 104, 135, 201, 203, 204, 205, 206, 207.....	37
Approved electives.....	9
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Total	61-62

Courses

101-3 Introduction to Data Processing. The successful student should be able to demonstrate an understanding of basic terminology, procedures, applications, and equipment used in data processing, and be able to compare manual, punched card, and computer methods of processing. Lecture three hours.

102-3 Introduction to Programming. The successful student should be able to flowchart logical solutions to and write programs for business data processing problems. The student

should also understand the general approaches to totaling, sub-totalling, table processing, and file updating. Lecture three per week.

103-3 COBOL Programming I. The successful student will solve a variety of simple problems using card and printer files. Lecture three per week. Prerequisite: 101.

104-3 Data Processing Applications. The successful student will demonstrate by examination a general knowledge of processing procedures and terminology for basic business applications such as billing, accounts receivable, accounts payable, inventory control and payroll. Lecture three hours. Prerequisite: 101.

107-3 Electronic Data Processing Concepts. Designed as a concepts course for non-data processing majors. Each student will learn the basic operation and functions of data processing equipment, be able to flow chart logical solutions, write a program for a simple data processing problem, describe the use of several different programming languages, and discuss the impact of computers on our socio-economic system. Averages two lecture and three laboratory hours per week. Elective Pass/Fail.

109-2 Punched Card Preparation. Designed as a skill course for non-data processing majors. Each student will learn the basic operation and function of IBM unit record machines, memorize the keyboard and design program cards for the IBM 26 and 29 model key punches. Most of the laboratory time will be spent in improving speed and accuracy of alphameric punching. Averages one lecture and three laboratory hours per week. Prerequisite: typing skills.

110-3 Introduction to Business and Data Processing Careers. Upon the completion of this course of study, the student should be able to describe the foundations and responsibilities of business; management of the business firm; human factors in management; financing the business firm; quantitative aids of the business manager; marketing and distribution; legal government, and social environment; the world of computers and data processing; and data processing career opportunities. Lecture three per week. Prerequisite: major in electronic data processing or consent of department.

135-3 Data Processing Mathematics. Upon completion of this course of study, the student should be able to successfully work problems involving decimal numbers; other number bases; basic algebra; equations; functions; nonlinear functions; simultaneous systems of equations; matrices; linear programming; series; numerical methods; Boolean algebra; logic; sets; and hexadecimal-decimal conversion, and basic business statistics. Lecture three per week. Prerequisite: high school algebra.

201-4 Assembler Language Programming. The successful student should be able to demonstrate a working knowledge of Assembler Language by coding and running programs using card/disk/printer input-output, the decimal instruction set, table processing using indexing and internal subroutines. Lecture four per week. Prerequisite: 102 or equivalent.

202-3 FORTRAN IV Programming. The successful student will demonstrate a working knowledge of the FORTRAN IV programming language by flow charting, coding, compiling and testing a variety of mathematical and statistical problems. Lecture two hours. Laboratory three hours. Prerequisite: Mathematics 111 or consent of instructor.

203-3 Job Control Language and Utilities. The successful student should have an understanding of the role of a computer operating system, and should be able to demonstrate a working knowledge of both JCL and utility programs by coding the JCL and utility control statements necessary for activities such as creating, copying, and sorting files. Lecture three hours. Prerequisite: experience with a batch processing system.

204-3 COBOL Programming II. The successful student will solve complex problems using disk files and advanced COBOL features. Lecture three per week. Prerequisite: 103 or equivalent.

205-2 to 3 Systems Design and Development. The successful student will demonstrate in class discussion, on examinations and by preparing a case study, an ability to design an effective business information processing system including the system flow chart, system specifications, feasibility, the implementation procedure and essential documentation. Students electing not to complete the individual project will register for only two hours of credit and must have the consent of the department. Lecture two hours, additional laboratory hours to be arranged. Prerequisite: 104 or consent of department.

206-3 RPG Programming. The student should be able to prepare a variety of reports from several established card and disk data files. Primary emphasis is placed upon using the Report Program Generator programming language. RPG II using the disk operating system is stressed. Averages three lectures per week. Prerequisite: 101.

207-6 Data Processing Project. Designed to provide the student with a data processing problem which is beyond the scope of any single course. Prerequisite: consent of department.

208-8 (4, 4) Numerical Control Programming. The student will be able to (a) operate basic data processing machines; plan, code, test and debug an elementary FORTRAN IV program; plan, code, test and prove an elementary AD-APT part program, and (b) describe the environment in which the AD-APT system resides and become proficient in using the AD-APT part programming language. Lecture two hours. Laboratory three hours. Prerequisite: Tool and Manufacturing Technology 210.

209-1 to 8 Data Processing Internship. Designed to provide the students with meaningful

practical experience. Involves study, observation, and participation in a data processing installation. Hours and credit arranged individually. May be repeated for credit up to eight hours total. Prerequisite: consent of department. Mandatory Pass/Fail.

217-3 Computing for Business Administration. Designed for business oriented students who need to know how computer systems may be used as management tools. Topics include: types of hardware and software, information systems design and management, and an introduction to FORTRAN programming. A successful student will be able to write programs in FORTRAN to analyze management information. Lecture three hours. Prerequisite: completion of the General Studies mathematics requirement or equivalent.

235-2 Business Statistics. The student will present data in tabular form and draw graphic representations of data; compute measures of central tendency and solve problems dealing with measures of dispersion and skewness; do basic probability computation; deal with sampling distributions; and solve problems dealing with regression and correlation analysis. Lecture two hours. Prerequisite: Accounting 110 or consent of instructor.

240-3 Database Processing. Database concepts, design, languages, implementation, and administration. Students will write, compile, and execute COBOL programs to retrieve, update, and create database records. Lecture three hours. Prerequisite: 204B or consent of department.

241-3 Data Communications. The successful student will acquire a working knowledge of the terminology and concepts of data transmission. Lecture three per week. Prerequisite: 240 or consent of instructor.

260-3 Introduction to Text Processing. (Same as Secretarial and Office Specialties 260) Each student will learn the basic operations and functions of representative work processing machines and terminals. The laboratory time will be spent in improving speed and accuracy in the typing of textual materials. Lecture two hours, laboratory three hours. Prerequisite: typing skills.

Electronics Technology (Program, Major, Courses)

The goal of the electronics technology program is to educate electronics technicians capable of taking their places in industry in both indirect and direct support to the electronics engineer. Experiences in meter measurements and troubleshooting are provided with manuals and specifications to allow the indirect supporting technician to work for a senior technician. More than an hour each day is spent descriptively and mathematically presenting the general theory principles of electronics. This theory is then applied in a two-hour laboratory each day to design, breadboard, and evaluate circuitry to not only reinforce the theory knowledge but to prepare the direct supporting technician for work later directly for an engineer. During the early stages of the program, most instruction is directed toward basic principles of electricity and electronics. This instruction is followed by principles related to study of communication systems, digital circuits, instrumentation, and control system.

The persons who make the best electronics technicians are those who are interested in physics and mathematics, who have a desire to learn how complex equipment functions and are careful of small details, and who enjoy seeking out and solving problems.

The purchase of a set of specified hand tools, costing approximately \$150, is mandatory for students enrolled in the program. A list of the specific hand tools and supplies required will be sent upon request.

An advisory committee drawn from among professionals active in the industry helps to assure that students get a course of study that will prepare them for existing and developing conditions in the field.

Opportunities exist throughout industry for technicians, and students are limited only by their own talent and motivation. Job pay is directly commensurate with the technician's ability, resourcefulness, and initiative.

Students who have an excellent background in AC-DC theory are especially suited for an accelerated program. Students who have extensive studies in electronics in high school vocational courses and at area vocational centers are encouraged to enter an accelerated program which shortens the time required to earn the associate degree at the School of Technical Careers. The electronics technology

faculty has developed a formalized program of proficiency testing which allows these students to:

- 1. Gain credit in first semester major courses through testing.
- 2. Take second semester major courses during the eight-week summer session.
- 3. Begin third semester, or sophomore, courses in the fall semester of what would normally be their freshman year at college.

Electronics Technology 301, 302, 303, 311, 312, and 313 are post-associate courses. Students must have an Associate in Applied Science degree in electronics technology or equivalent to enroll in these courses. Additional electronics parts and supplies are required for these courses. The approximate cost of these parts and supplies is \$200 to \$250.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Electronics Technology

GSD 101, 153.....	6
School of Technical Careers 105a,b, 107a,b, 102 or GSD 118.....	10
Electronics Technology 101, 102, 111, 112, 121, 122 or 223, 201, 202, 211, 212, 221	53
Computer Science 202 or Electronic Data Processing 107 or 217.....	3
Total	72

Courses

101-5 DC-AC Circuit Analysis. The laws and theory principles of DC-AC passive circuits are presented in a comprehensive manner using descriptive, mathematical, and verbal analytical approach. Prerequisite: concurrent enrollment in School of Technical Careers 105a,b and electronics technology major or consent of program supervisor.

102-5 Electronics Circuit Theory. The operation of active devices with their passive components are descriptively, verbally, and mathematically presented in circuits such as simplifiers, oscillators, op amps, and other IC systems. Prerequisite: 101 and electronics technology major or consent of program supervisor.

111-6 DC-AC Circuit Analysis Laboratory. Application of the theory studies in 101 on passive circuits is made under experimental conditions. Laboratory ten hours. Prerequisite: concurrent enrollment in 101.

112-6 Electronics Circuits Laboratory. Application of the theory studies in 102 on electronic circuits is made under experimental conditions. Laboratory ten hours. Prerequisite: 111, and concurrent enrollment in 102.

121-3 Electronic Devices. The focus is placed on electronic devices, their construction, operational characteristics, and application in a single functional block according to manufacturer specifications. Lecture three hours. Prerequisite: concurrent enrollment in 111.

122-3 Communications Fundamentals. Communications systems, components, propagation, and coupling, and other transmission modes are covered as applied to communications. Prerequisite: 101.

201-1 to 5 Telemetry and Industrial Circuits Theory. The theory principles are covered on circuitry employed in the measurement, transmission, resolution, and development of data required for operation in industrial and commercial applications. Lecture five hours. Hours and credit to be individually arranged. Prerequisite: 102 and consent of instructor.

202-1 to 5 Digital Circuits Theory. Concepts of the circuits used to make up such systems as numeric controls, computers, and communications networks. Lecture five hours. Hours and credit to be individually arranged. Prerequisite: 102 and consent of instructor.

211-6 Telemetry and Industrial Circuits Laboratory. Application of the theory studied in 201. It develops skills in design, testing, and troubleshooting transducers, telemetry equipment, and industrial circuits. Laboratory ten hours. Prerequisite: concurrent enrollment in 201 or consent of instructor.

212-1 to 6 Digital Circuits Laboratory. The laboratory provides organized investigation of individual circuits and subsystems that are employed in a variety of major systems in industry and commerce. Laboratory ten hours. Hours and credit to be individually arranged. Prerequisite: 102 and consent of instructor.

221-3 Electronic Systems Analysis. Extends the basic analysis skills developed in the pre-

requisite course to the analysis of typical modern electronic systems and subsystems. Lecture three hours. Prerequisite: 102 or consent of instructor.

223-3 Federal Communications Commission Test Preparation. Programmed instruction designed to prepare a student for the test for the second class FCC radio-telephone license. Individualized instruction three hours. Prerequisite: 102 and electronics technology major or consent of program supervisor.

224-3 Computer System Applications. Analysis and working knowledge of numbering systems, Boolean algebra, logic gates, pulse shaping circuits, and various timing circuits used in computers, microprocessors, and other digital systems. Prerequisite: 101 and 111 or consent of program coordinator.

301-1 to 5 Introduction to Electronic Biomedical Instrumentation. Designed to develop an understanding of the fundamentals of electronic circuits employed in biomedical instrumentation of the following purposes: cardiovascular measurements, patient care and monitoring, measurements in the respiratory system, measurement of physical variables, sensory measurements for the study of behavior, biotelemetry, instrumentation for the clinical laboratory, X-ray and radioisotope instrumentation, and particularly electrical safety for medical equipment. Lecture five hours. Hours and credit to be individually arranged. Prerequisite: consent of instructor

302-3 to 4 Optical Electronics. The student will be required to identify the basic principles of light physics as they relate to laser and fiber optic theory. Integration of electronic control, measuring, and sensing devices will be accomplished within an industrial and communication framework. A systems approach will be utilized involving laser, fiber optic, and electronic discrete and integrated components. It is an applied course intended as a post-associate offering primarily for students in electronics technology providing exposure to the technical aspects of an important emerging area of electronics. Prerequisite: 102.

303-5 Microcomputer Construction and Troubleshooting. Upon successful completion of this course, the student will be able to construct a microprocessor based system and make it operational, generate software of use software techniques which would be used in software/hardware troubleshooting, use equipment and techniques which would be used in efficient microprocessor system troubleshooting, and use the equipment or techniques learned to troubleshoot a microprocessor based system.

311-1 to 6 Electronic Biomedical Instrumentation Laboratory. The laboratory is designed to provide hands-on experience with the equipment currently available for use in biomedical instrumentation. The equipment is selected from the major supplies and will be utilized to teach interfacing and applications. The equipment will encompass sensors, transducers, amplifiers, oscillators, display and recording devices. Complete systems approach will be taught in conjunction with the medical school laboratories on existing equipment. Laboratory ten hours. Hours and credit to be individually arranged. Prerequisite: consent of instructor.

312-2 Optical Electronics Laboratory. The student will perform selected experiments in electronics, lasers, fiber optics, and light physics. Emphasis will be placed on the integration of laser and fiber optic principles with electronics. Laboratory three hours. Prerequisite: 102 and concurrent enrollment in 302.

313-6 Microcomputer Construction and Troubleshooting Laboratory. This laboratory is designed to reinforce the concepts of microcomputer operation, troubleshooting, programming, and interfacing through actual practice. Ten hours laboratory. Prerequisite: concurrent enrollment in 303.

319-1 to 15 Electronics Occupations Internship. Students will be assigned to a University approved program to engage in activities related to the electronics technology program and the student's career objectives. The student will perform duties as assigned by the work supervisor and internship coordinator. Reports and assignments are required. Prerequisite: consent of instructor. Mandatory Pass/Fail.

Elementary Education

(SEE CURRICULUM, INSTRUCTION, AND MEDIA)

Engineering (Major, Courses)

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the benefit of people.

The four-year undergraduate program leading to the Bachelor of Science Degree in engineering is a modern, flexible curriculum consisting of a common core and an

elective option. The common core consists of courses in basic sciences, mathematics, engineering science, and engineering design. Sometime before the senior year, the student selects the option which contains required and elective courses in an area of interest. The options are:

- Electrical Sciences and Systems Engineering (ESSE)
- Engineering Mechanics and Materials (EMM)
- Thermal and Environmental Engineering (TEE)
- Mining Engineering (MNGE)

The first three options (ESSE, EMM, TEE) are fully accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET), the recognized agency for accrediting engineering curricula in the United States. The Mining Engineering option has just been introduced and will be due for accreditation review during a future ABET inspection. Graduating seniors with a specialization in ESSE, EMM or TEE are eligible to take the Engineer-In-Training (EIT) examination as a first step toward registration as a Professional Engineer (PE).

Judicious selection of elective courses allows the student to prepare for a variety of areas (see individual curricula) identified with the traditional engineering disciplines (electrical, mechanical, civil, mining, etc.) and other areas that transcend the traditional disciplines. The aim of this flexibility is to provide society with graduates who can cope with a variety of engineering activities such as design, development, testing, consulting, and applied research. These activities may be directed toward the solution of contemporary problems varying from design of devices to problems of an interdisciplinary or complex-systems nature.

Students enrolled in community colleges who plan to transfer to Southern Illinois University at Carbondale should take courses that provide backgrounds in mathematics, physical sciences, social sciences, and humanities. Introductory foreign language courses are not acceptable. They may transfer at any time, but there are advantages in having completed a baccalaureate-oriented associate-degree program. Community college students can complete specific Southern Illinois University at Carbondale course requirements which include 5 hours of English composition and speech, 8 hours of university physics, 7 hours of chemistry, 11 to 14 hours of mathematics (including calculus), 5 hours of statics and dynamics, and 16 hours of social sciences and humanities. Calculus and analytical mechanics are prerequisites for most junior-level engineering courses.

Students with bachelor of science degrees in engineering can specialize further at the graduate level.

Courses

Safety glasses, an electronic calculator or a slide rule with log-log scales, and textbooks are required for all engineering students.

100-3 Introduction to Engineering. Introduction to the exciting and challenging experience of engineering. Methods and procedures utilized by the engineer for problem solving are discussed. Each student will be involved in an authentic engineering design project. A graphics and computational tools laboratory will be part of the course.

222-2 Computational Methods for Engineers and Technologists. Introduces the student to the use of digital computers and programmable calculators in the solution of technical problems. A problem-oriented computer language is used to solve relevant problems that are specifically designed for the engineering and technology student. Problem analysis, flow charting, coding, diagnostics, execution, and solution verification are discussed. Prerequisite: Mathematics 111.

225-3 Introduction to Digital Systems. Number systems, Boolean algebra, combinational circuits, minimization, sequential circuits, logic devices, and computer basics. Prerequisite: Mathematics 111.

260-5 (2, 3) Mechanics of Rigid Bodies. (a) Principles of statics; force systems; equilibrium of particles and rigid bodies; trusses, frames and machines, centroids; friction; moments of inertia of areas. Prerequisite: Mathematics 150. (b) Principles of dynamics; mass moment of inertia; kinematics and kinetics of particles and rigid bodies; vibrations. Prerequisite: 260a or equivalent.

300-3 Engineering Thermodynamics I. Study of the basic principles of thermodynamics.

Engineering analysis of physical systems based on the first and second laws. Properties of pure substance (ideal gas behavior, non-ideal gas behavior, and equations of state). Mixtures of ideal gases. Introduction to cycle analysis. Prerequisite: Chemistry 224 or equivalent and Physics 205a. Physics prerequisite waived with consent of instructor.

302-3 Engineering Heat Transfer. An introductory study of the rate mechanisms of thermal energy transport both in steady state and in transient conditions, with and without phase change. Prerequisite: 260a.

311-3 Mechanics of Deformable Bodies. Introduction to the mechanics of deformable bodies. Forces and deformations. Torsion. Stresses in beams. Deflections of beams. Statically indeterminate beams. Columns. Laboratory. Prerequisite: 260a.

312-3 Materials Science Fundamentals. Sub-microscopic structure of solids, including electronic states, atomic and molecular arrangement, structural imperfections and atomic diffusion, and their relationship to macroscopic properties; physical properties of semiconductors, dielectric and magnetic properties of materials; metallic, organic, and ceramic materials and their mechanical properties; composite materials. Prerequisite: Physics 205 and Mathematics 250.

313-3 Fluid Mechanics. A broad introduction to the concepts and principles of fluid statics, kinematics, and dynamics. The fundamental laws for fluid motion in the form of Euler's, Bernoulli's, impulse-momentum and work-energy equations. Dimensional analysis and dynamic similitude. Resistance to flow: deformation drag, surface drag, form drag. Introduction to compressible fluid flow. Laboratory. Prerequisite: 260b.

335-3 Electric Circuits. Foundation course in electric circuits. Basic laws and concepts of linear circuits. Analysis of AC and DC circuits by mesh and nodal methods, Thevenin's and Norton's theorems, superposition principle, and phasor notation. Transients. Prerequisite: Mathematics 250.

345-3 Electronics. Functional electronics and basic signal processing. Characteristics and typical applications of analog and digital electronic modules. Operational amplifiers. Fundamentals of transistors. Use of basic instruments. Lecture and laboratory. Prerequisite: 335.

361-2 Engineering Economics in Design. Procedures for evaluating the relative economic merits of engineering projects and designs. These procedures compare alternate engineering estimates, evaluate engineering effectiveness, and proceed toward decision making based on economic and engineering optimization. Course materials are present in professional engineering examinations. Prerequisite: Mathematics 111 or equivalent.

385-3 Electromechanical Energy Conversion. Principles of electromechanical energy-conversion and related circuitry. Magnetic circuits. Transformers. DC machines. Singlephase and polyphase machines. Polyphase circuits. Prerequisite: 335.

443-4 Engineering Design. Projects of an engineering systems design nature. Students select a problem, define and design the various subsystems, define subsystem interface requirements, integrate the subsystems into the final design and document the design effort. Laboratory. Not for graduate credit in engineering. Prerequisite: senior standing in engineering.

455-3 Engineering Geology. (See Geology 455.)

ELECTRICAL SCIENCES AND SYSTEMS ENGINEERING
(Department, Major [Engineering], Courses)

Students who choose the electrical sciences and systems engineering option prepare themselves for professional employment or graduate studies in areas associated with electrical or systems engineering. Employment opportunities exist within a wide range of organizations, such as governmental laboratories; consumer-goods manufacturers; and telecommunications, electric-power, computer, and microelectronic companies. Flexibility in this option allows students to choose among courses in applications and theory of circuits, systems, communications, digital systems, controls, electronics, instrumentation, electromagnetics, and power systems.

Bachelor of Science Degree, School of Engineering and Technology

ENGINEERING MAJOR — ELECTRICAL SCIENCES AND SYSTEMS ENGINEERING
SPECIALIZATION

General Studies Requirements	29 ¹
GSA: Substitute basic sciences	
GSB	9
GSC	9

GSD: Substitute mathematics	7
GSE	4
<i>Requirements for a Major in Engineering</i>	103
Basic Sciences.	18 ²
Physics 205a, b; 255a, b	8
Chemistry 224 and 225	7
GSA 110 or 115 or 209, or substitute Geology 220	3
Mathematics 150, 250, 251, 305 and approved elective-3	17
Engineering	37
General: Engineering 100, 222, 361	7
Engineering Sciences.	26
Engineering 225, 260a, 300, 302, 335, 345, 385, select two from 260b, 311, 312, 313	4
Engineering Design	4
Engineering 443	31
Specialization in Electrical Sciences and Systems Engineering	31
Engineering Sciences.	6
ESSE 455; select one of ESSE 447, 476, 477, or 486	14
Engineering Design	14
ESSE 465; select 11 hours from ESSE 426, 427, 446, 456, 457, and 487	11
Approved technical electives	11
<i>Total</i>	132

¹Courses required for the major will apply toward 16 hours of General Studies making a total of 45 in that area.

²Transfer students holding the associate degree in a baccalaureate-oriented program, and having at least 18 semester hours of basic science approved by the department chairman or a designate, meet this requirement.

Courses

Safety glasses, a hand-held scientific calculator, and textbooks are required of all electrical sciences and systems engineering students.

421-2 Digital Computers in Applied Physical Research. Computational techniques for matrix inversion, solution of linear equations, and characteristic roots and vectors. Least squares analysis, curve-fitting, and regression. Numerical quadrature. Solution of nonlinear equations. Solution of regular differential equations and boundary-value problems. Generation of approximate solutions. Monte Carlo techniques. Engineering and other physical examples are used as the primary teaching vehicle. Prerequisite: Engineering 222 and Mathematics 305.

426-4 Microcomputer Systems. Application and makeup of microcomputer systems. Microprocessor programming and applications with various interface devices including input/output ports, analog-to-digital and digital-to-analog converters. Lecture, laboratory, and design project. Prerequisite: Engineering 222, 225, and 345 or consent of instructor.

427-3 Digital-Systems Design I. Advanced concepts in combinational and sequential circuit design including system design procedures and register transfer languages. Prerequisite: Engineering 222, 225, and 345 or consent of instructor.

446-4 Electronic Circuit Design. Design techniques for a wide range of electronic circuits. Device and circuit modeling. Computer aided circuit design. Consideration of audio, video, and tuned amplifiers; feedback; oscillators; digital circuits. Design project. Lecture and laboratory. Prerequisite: 455 or concurrent enrollment; Engineering 345.

447-3 Applications of Electronic Devices. Physical mechanisms governing the operation of a wide variety of semiconductor devices. Applications of specific devices are used to illustrate performance characteristics and the relation between device design parameters and terminal properties. Prerequisite: Engineering 222, 312, and 345.

455-3 Linear Systems. Fundamental techniques in analysis of linear systems. Transient analysis of linear electrical networks and analogous systems by classical, Laplacetransform, and computer techniques. Feedback, frequency response, and state variables. Prerequisite: Engineering 335 and Mathematics 305.

456-3 Control Theory. Fundamentals and techniques for analysis and design of systems with feedback. Signal flow graphs. S-plane analysis. Frequency-domain analysis. Root locus. Stability conditions. Compensation techniques. Prerequisite: 455.

457-3 Systems Theory. In-depth study of system concepts such as interaction, anticipation, feedback, feedforward, stability, and memory. Methods which maintain flexibility and gener-

ality in dealing with all types of engineering systems. Prerequisite: Mathematics 305 or consent of instructor.

458-3 Communications Theory. Basic information theory. Fourier series and transform. Sampling theory. Amplitude modulation, frequency modulation, and pulse modulation. Signal-to-noise ratio. Statistical methods. Prerequisite: 455.

459-3 Digital Control. Analysis and design methods for discrete-data and digital control systems using tools like Z-transforms, state variable equations, stability criteria time-domain response, and frequency-domain response. Prerequisite: 455 and Engineering 225.

461-4 Bio-electricity and Biomedical Instrumentation. Interdisciplinary course primarily for life-science students. Electromagnetics relative to living systems. Circuit analysis. Functional electronics. Electric safety. Specific clinical and research instrumentation. Lecture and laboratory.

465-3 Instrumentation. Theory and practice related to measurement systems for research and industry. Instrument characteristics. Techniques in analog and digital instrumentation. Transducers. Signal conditioners. Output and display systems. Statistics of measurement. Design project. Lecture and laboratory. Prerequisite: Engineering 345.

476-3 Electromagnetic Fields I. Electric and magnetic fields using vector analysis. Evolution of Maxwell's equations through the laws of Coulomb, Gauss, Ampere, and Faraday. Concepts of energy and potential. Poisson and Laplace fields. Wave equation and plane waves. Transmission lines. Prerequisite: Mathematics 305.

477-3 Electromagnetic Fields II and Microwaves. Application of Maxwell's equations and the laws of electromagnetics to boundary-value problems, microwave devices, guiding structures, and radiating structures. Poynting's theorem and energy relationships. Lecture and laboratory. Prerequisite: 476.

478-3 Digital Communication. Principles, analysis, design, and applications of digital communication systems; transmission techniques of digital information; state-of-the-art implementation of modems, terrestrial line-of-sight, digital, microwave networks and digital satellite communication systems. Prerequisite: 455 or consent of instructor.

486-3 Electric Energy Sources. Principles and utilization of nuclear, solar, and fossil-fuel generators. Direct energy converters including thermionic, thermoelectric, and photovoltaic. Prerequisite: Engineering 385 or consent of instructor.

487-4 Power Systems Analysis I. Introduction to analysis of electric power systems. Modeling of power system components. Power system configuration. Control of power and frequency. Control of voltage and reactive power. Load-flow analysis. Introduction to symmetrical components. Prerequisite: Engineering 385.

488-3 Power Systems Engineering. Network analysis applied to power systems; load-flow concept; economic operation of power systems; stability. Prerequisite: 487.

492-1 to 5 Special Problems in Engineering. Topics and problems selected either by student or instructor. Prerequisite: senior standing and consent of instructor.

527-3 Digital Systems Design II.

536-3 Network Synthesis.

547-3 Solid-State Theory of Electronic Materials.

556-3 Modern Control Theory.

557-6 (3, 3) Complex Systems.

577-4 Electromagnetic Fields III.

580-1 to 4 Seminar.

586-3 Power Systems Analysis II.

592-1 to 5 Special Investigations in Engineering.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

ENGINEERING MECHANICS AND MATERIALS (Department, Major [Engineering] Courses)

The engineering mechanics and materials option is designed to help students prepare for a broad professional career in areas of civil and/or mechanical engineering, to specialize in selected areas of engineering mechanics, or to prepare for graduate studies. Course work is offered by the department in experimental analysis, vibrations, machine design, materials science, hydraulics, soils and foundations, structural analysis and design, numerical methods, and supersonic flow. The student, with the help of an adviser, is encouraged to choose a sequence of technical electives to achieve a solid and coherent specialization.

Bachelor of Science Degree, School of Engineering and Technology

ENGINEERING MAJOR — ENGINEERING MECHANICS AND MATERIALS SPECIALIZATION

<i>General Studies Requirements</i>	29 ¹
GSA: Substitute basic sciences	
GSB	9
GSC	9
GSD: Substitute mathematics	7
GSE:	4
<i>Requirements for a Major in Engineering</i>	103
Basic Sciences	18 ²
Physics 205a, b; 255a, b	8
Chemistry 224 and 225	7
GSA 110 or 115 or 209, or substitute Geology 220	3
Mathematics 150, 250, 251, 305 and approved elective-3	17
Engineering	37
General: Engineering 100, 222, 361	7
Engineering Sciences	26
Engineering 260a,b, 300, 302, 311, 312, 313, 335, 345 or 385	
Engineering Design	4
Engineering 443	
Specialization in Engineering Mechanics and Materials	31
General: EMM 440, 451	6
Engineering Sciences: EMM 464	2
Engineering Design: EMM 413, 475	6
Engineering Science Electives	5
Select at least 5 hours from EMM 414, 419 ³ , 441 ³ , 447, 448, 449, 458, 465	
Engineering Design electives	7
Select at least 7 hours from EMM 409, 419 ³ , 441 ³ , 442, 444, 472, TEE 406	
Technical electives in approved areas	5
Select up to 5 hours of technical electives to be chosen from EMM 462, 470, or other approved courses	
<i>Total</i>	132

¹Courses required for the major will apply toward 16 hours of General Studies making a total of 45 in that area.

²Transfer students holding the associate degree in a baccalaureate-oriented program, and having at least 18 semester hours of basic science approved by the department chairman or a designate, meet this requirement.

³This course may be used for either one semester hour of design credit or two semester hours of engineering science credit or both.

Courses

Safety glasses, a hand-held scientific calculator, and textbooks are required of all engineering mechanics and materials students.

409-3 Hydrology and Hydraulic Engineering Design. Study of the hydrologic cycle. Stream-flow analysis. Unit hydrograph. Matrix methods; synthetic methods. Frequency analysis; multivariate distributions. Hydrologic and hydraulic routings. Groundwater hydrology. Application of hydrology to the design of various hydraulic structures: small dams, spillways, drainage systems. Prerequisite: Engineering 222, 313 or equivalent or consent of instructor. Elective Pass/Fail.

413-3 Fluid Systems Design. Two to three week projects involving the identification, modeling, analysis, and design of fluid-engineering systems. Prerequisite: Engineering 222, 313.

414-3 Intermediate Fluid Mechanics. A development of the governing equations of motion including the continuity, Navier-Stokes, and energy equations. Application of these equations to potential, viscous, and compressible flows. Isentropic flow of a perfect gas. Normal and oblique shock waves, Prandtl-Meyer flow. Prerequisite: Engineering 313 or equivalent.

419-3 Soil Mechanics and Foundation Engineering Design. Study of soil behavior and its application in foundation engineering. Laboratory. Soil-water systems and interactive forces; stress-strain characteristics; effective stress concept; drained and undrained conditions for

saturated soils; theory of consolidation. Design of retaining walls, earth dams, shallow and deep foundations. Prerequisite: Engineering 222, 311, 313, or consent of instructor.

440-3 Structures. An introduction to structural engineering. The design procedure. Loads. Types of structures. Structural materials, safety. Social and environmental considerations. Analysis of structures. Influence lines. Deflections. Slope deflection. Moment distribution. Matrix methods. Prerequisite: Engineering 311 or consent of instructor.

441-3 Vibration in the Design of Machines and Structures. Theory: Review of second order ordinary linear differential equations. Matrices and determinants. Phasor and trigonometric solutions, Duhamel integrals, Fourier Series. Applications: motor and equipment mounts, deflection of rotating shafts, resonance, dynamic balancing, vibration absorbers, vibrometer and accelerometer design, analysis of accelerometer and vibrometer data, seismic loads on buildings, vehicle suspensions, vibration of geared systems, vibration linkages. Prerequisite: Engineering 222, 260b and Mathematics 305.

442-3 Structural Steel Design. An introduction to structural steel design with emphasis on buildings. Composite design. Plate Girders. Rigid frames. Prerequisite: 440 or consent of instructor.

444-3 Reinforced Concrete Design. Behavior and strength design of reinforced concrete beams, slabs, compression members, and footings. Prerequisite: 440 or consent of instructor.

447-3 Intermediate Mechanics of Materials and Structures. An introduction to the equations of elasticity. Applications of these equations to beam bending, torsion, and plane stress/plane strain problems. Energy methods. Introduction to elastic-plastic material behavior. Prerequisite: Engineering 222, 311.

448-3 Experimental Stress Analysis. Development of theoretical equations of stress and strain and their transformations. Equations of equilibrium; compatibility equations; stress functions; applications of these equations in stress measurements; study of optical, mechanical, and electrical strain gauges; brittle coating; Moiré technique; and two-dimensional photoelasticity. Laboratory. Prerequisite: Engineering 311.

449-2 Intermediate Dynamics. Kinematics and kinetics of plane and three-dimensional motion. Principles of work and energy applied to the motion of rigid bodies. Principles of impulse-momentum applied to variable mass and rigid body systems. Space mechanics. Prerequisite: Engineering 222, 260, Mathematics 305.

451-3 Numerical Methods in Mechanics. An introduction to the available numerical methods and techniques which are employed to solve engineering problems with special emphasis devoted to areas of mechanics involving stress analysis, vibrations, fluid flows, mechanisms, and structures. Prerequisite: Engineering 222, 311, 313 or consent of instructor.

458-2 Photoelasticity. Optics related to photoelasticity; theory of photoelasticity; photoelastic materials; analysis techniques; two-dimensional and three-dimensional photoelasticity; birefringent coatings; scattered light photoelasticity; application of photoelastic methods. Laboratory. Prerequisite: Engineering 311.

462-3 Matrix Methods of Structural Analysis. Flexibility method and stiffness method applied to framed structures. Introduction to finite elements. Prerequisite: 440 and Engineering 222 or consent of instructor.

464-2 Physical Metallurgy and Ceramics. Structure/composition determination for bulk and surfaces. Thermodynamics of solutions. Phase transformations. Structure and properties of aggregate and composite materials. Corrosion. Dislocation theory. Plastic flow. Fracture. Failure analysis. Prerequisite: Engineering 222, 312.

465-3 Materials Preparation and Processing. Forming and processing of materials. Solidification: single crystal techniques, plane front and dendritic solidification, microsegregation, nonequilibrium structures. Vapor deposition: fractionation, physical vapor deposition, ion plating, sputtering. Thermal processing of solids: homogenization, crystallization, precipitation. Powder preparation, sintering and densification. Deformation processing: rolling, forging, extrusion, drawing, preferred orientation. Prerequisite: 464.

470-3 Engineering Analysis. Methods of solution for basic ordinary differential equations with applications to engineering systems. Basic methods of solution for partial differential equations with emphasis on applications of the Laplace, Poisson, and heat equations to engineering problems. Basic vector field theory; transformation theorems. Simulation techniques applied to engineering systems. Prerequisite: Mathematics 305 or equivalent.

472-3 Materials Selection for Design. Interaction of design parameters and materials selection parameters; comparison of alternative materials, thermomechanical processing, fabrication, joining methods, materials compatibility, and cost analysis. Projects in the selection of materials, processing and fabrication to meet the requirements of a design in the students' areas of specialization. Prerequisite: Engineering 222, 312.

475-3 Mechanical Systems Design. Working stresses, shafting, springs, belts, other machine elements. Lubrication theory and practice, gears, belt drives, chains. Taught from text, association manuals, manufacturer's handbooks. Prerequisite: Engineering 222, 260b, 311 or equivalent.

492-1 to 4 Special Problems in Engineering. Selected engineering topics and/or problems in (a) Stress analysis, (b) Fluid flow analysis, (c) Structural engineering, (d) Computational

mechanics, (e) Materials engineering, and (f) Dynamics. Four hours maximum course credit.

Prerequisite: consent of instructor.

504-3 X-Ray Diffraction and the Solid State.

505-3 Physical Properties of Crystalline Materials.

506-3 Solidification Processing.

510-3 Computational Fluid Dynamics.

512-3 Introduction to Theoretical Elasticity.

513-3 Mechanics of Viscous Fluids.

514-3 Mechanics of Inviscid Fluids.

515-2 Wave Motion.

518-3 Introduction to Turbulence.

520-3 Finite Element Analysis.

540-2 Elastic Stability.

542-2 Theory of Plates.

544-3 Advanced Design of Reinforced Concrete.

545-3 Inelastic Metal Structures.

550-3 Advanced Compressible Fluid Flow.

561-3 Intermediate Vibrations.

580-1 to 4 Seminar.

592-1 to 4 Special Investigations in Engineering.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

MINING ENGINEERING (Department, Major [Engineering], Courses)

Mining engineers engage in design, development, and management of surface and underground mining systems for exploitation of mineral deposits from the earth's crust. The mining engineering option prepares graduates to meet the challenges of the mining engineering profession. Coursework in the option includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral and coal processing, material handling systems, mineral economics, and mine health and safety engineering. Facilities include modern, well-equipped rock mechanics, mine ventilation and mineral processing laboratories.

After completing the option, the graduate may work in an engineering or management position for mining industries, equipment manufacturing concerns, research organizations, or government agencies. The coursework also provides good preparation for further study at the graduate level.

Bachelor of Science Degree, College of Engineering and Technology

ENGINEERING MAJOR — MINING ENGINEERING SPECIALIZATION

<i>General Studies Requirements</i>	29 ¹
GSA: Substitute basic science	
GSB	9
GSC	9
GSD: Substitute mathematics	7
GSE	4
<i>Requirements for Major in Engineering</i>	103
Basic Sciences	18 ²
Physics 205a,b; 255a,b	8
Chemistry 224 and 225	7
Geology 220	3
Mathematics 150, 250, 251, 305 and approved elective-3	17
Engineering	34
General: Engineering 100, 222, 361	7
Engineering Sciences	23
Engineering 260a,b, 300, 302, 311, 313, 335, 385	

Engineering Design	4
Engineering 443	
Specialization in Mining Engineering	34
General: Geology	3
Mining Engineering	31
MNGE 320, 400, 410, 415, 420, 425, 431, 435, 440, 455, 475	
Total	132

¹Courses required for the major will apply toward 16 hours of General Studies making a total of 45 in that area.

²Transfer students holding the associate degree in a baccalaureate-oriented program and having at least 18 semester hours of basic science approved by the department chairperson or a designate meet this requirement.

Courses

320-3 Surveying for Engineers. Analysis and application of tacheometry and mine correlation. Aerial surveying. Engineering design of haulage curves. Production measurement. Geophysical and borehole surveying. Prerequisite: Mathematics 251, junior standing in engineering discipline or consent of instructor.

400-3 Principles of Mining Engineering. Basic principles of mineral exploration, development, and processing. Environmental problems related to mineral development. Prerequisite: junior standing in engineering or consent of instructor.

401-1 Mining Environmental Impacts and Permits. Socio-economic impacts of mining industry. Analyzing the markets for coal and its products. Mining operations and related environmental impacts. Mining permits. Prerequisite: 400 or consent of instructor.

410-3 Underground Mining Systems Design. Study of coal property evaluation. Underground mining methods. Design of mine production and its ancillary systems and subsystems. Prerequisite: 400, junior standing in engineering or consent of instructor.

411-2 Mine Machinery. Analysis and design of underground and surface mining machinery. Equipment and parts selection. System development. Preventive maintenance. Prerequisite: 410.

413-2 Mine Power Systems. Study of electrical, hydraulic and pneumatic mine power systems. Selection and design of power systems and their components. Related economics and decision making criteria. Prerequisite: 410, and Engineering 385, or equivalent, or consent of instructor.

415-3 Surface Mining and Land Reclamation. Surface mining systems for coal and non-coal minerals. Development of mining operations, equipment selection, mine planning and design, land reclamation, erosion of sedimentation control. Prerequisite: 400, junior standing in engineering or consent of instructor.

420-3 Mineral and Coal Processing. Impurities in coal and their impact on the market. Impurities liberation and separation methods. Product preparation. Coal washability characteristics. Flow sheet development. Recovery of minerals from tailings, slurry ponds and mine waste. Economics of mineral processing. Prerequisite: 400 or consent of instructor.

425-3 Mine Ventilation Systems Design. Study of the theories and practice of natural and forced mine ventilation. Fan and mine characteristics. Ventilation network analysis. Mine ventilation design and problem analysis. Prerequisite: 410, Engineering 313, or consent of instructor.

431-3 Rock Mechanics and Ground Control. Analysis of stress and strain, elementary elasticity, stress distribution around mine openings and pillars, engineering properties of rocks, support of mine workings, subsidence, design of mine openings. Laboratory. Prerequisite: 410, Engineering 311, or consent of instructor.

435-3 Operations Research and Computers in Mine Design. Mine systems analysis, operations research and statistics in decision making, production engineering, mine planning, optimization, linear programming, computer simulation. Prerequisite: 410, 415, Engineering 222, or consent of instructor.

440-2 Design of Material Handling Systems. Study of material handling and waste disposal methods. Material handling systems selection. Systems design and development. Material handling economics. Prerequisite: 410 or consent of instructor.

455-2 Mine Health and Safety Engineering. Analysis of mine hazards and accidents, sealing and recovery of mines, design of mine emergency plans, safety methods, and health hazard control plans. Prerequisite: 410, 415 or consent of instructor.

470-2 Experimental Methods in Rock Mechanics. Supplement theoretical knowledge gained in 431 with laboratory experiments. Physical property tests for specific gravity, moisture, density porosity of rocks. Unconfined and confined compressive strength, tensile strength, shear strength, photoelasticity, static and dynamic strain measurement systems, field instrumentation techniques. Prerequisite: 431.

475-3 Design of Mine Excavations. Rock classification; design of shafts, slopes, tunnels, and

underground chambers; support requirements; design of slopes; design of underground mining systems from ground control point of view; design of impoundments. Prerequisite: 431 or consent of instructor.

492-1 to 5 **Special Problems in Mining Engineering.** Topics and problems selected either by the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

511-3 **Advanced Ground Control.**

519-2 **Advanced Mine Environments and Pollution Control.**

530-3 **Mine Management.**

535-3 **Rock Fragmentation.**

540-3 **Production Engineering in Coal Mines.**

550-1 to 3 **Internship.**

580-1 to 2 **Seminar.**

592-1 to 5 **Special Investigations.**

599-1 to 6 **Thesis.**

601-1 to 12 **per semester Continuing Research.**

THERMAL AND ENVIRONMENTAL ENGINEERING (Department, Major [Engineering] Courses)

The option in thermal and environmental engineering prepares graduates to provide engineering solutions to problems such as optimum energy utilization, conservation of resources and environmental protection by working in or across the areas associated with traditional engineering disciplines. This option allows study of energy and environmental areas. The energy areas include heat and mass transfer, thermal systems and processes such as solar, coal conversion, electric power plants, refrigeration, engines. The environmental areas include wastewater, potable water, air pollution, waste heat, solid waste, and industrial waste. Previous graduates are successfully practicing in manufacturing and energy industries, in consulting engineering firms, in state and federal agencies, and in graduate studies.

Bachelor of Science Degree, College of Engineering and Technology

ENGINEERING MAJOR — THERMAL AND ENVIRONMENTAL ENGINEERING SPECIALIZATION

<i>General Studies Requirements</i>	29 ¹
GSA: Substitute basic science	
GSB	9
GSC	9
GSD: Substitute mathematics	7
GSE	4
<i>Requirements for Major in Engineering</i>	103
Basic Sciences	18 ²
Physics 205a,b; 255a,b	8
Chemistry 224 and 225	7
GSA 110 or 115 or 209, or substitute Geology 220	3
Mathematics 150, 250, 251, 305 and approved elective-3	17
Engineering	31
General: Engineering 100, 222, 361	7
Engineering Sciences	20
Engineering 260a,b, 300, 302, 312, 335, 345 or 385	
Engineering Design	4
Engineering 443	
Specialization in Thermal and Environmental Engineering	37
Engineering Sciences	13
TEE 314; select three from the following:	
Engineering 313, 455, TEE 301, 400, 405	
Engineering Design	16

TEE 404, 408, 435; select two from the following:	
TEE 402, 406, 415, 416, 419, EMM 409, 475	
Engineering Laboratory	1
TEE 401 or 417 or 418	
Approved technical electives	7

Total..... 132

¹Courses required for the major will apply toward 16 hours of General Studies making a total of 45 in that area.

²Transfer students holding the associate degree in a baccalaureate-oriented program, and having at least 18 semester hours of basic science approved by the department chairperson or a designate, meet this requirement.

Courses

Safety glasses, an electronic calculator or a slide rule with log-log scales, and textbooks are required of all thermal and environmental engineering students.

301-3 Engineering Thermodynamics II. Combined first and second law analysis; availability and reversibility. Third Law. General thermodynamic relations. Reactive systems. Thermodynamic equilibrium. Phase Rule. Applications. Thermodynamics of one dimensional fluid flow. Prerequisite: Engineering 300.

314-4 Introduction to Environmental Pollution. Basic engineering aspects and interrelation of air, water and land pollution. Problems, sources and effects of pollution. Pollution abatement. State and Federal air and water quality standards and engineering systems for pollution abatement. Prerequisite: Chemistry 224, junior standing. Elective Pass/Fail.

400-3 Power and Refrigeration Cycles. Use of engineering thermodynamics in analysis of power and refrigeration cycles. Detailed treatment of various gas and vapor power cycles including combined gas and steam cycles. Thermodynamics of combustion. Gas and vapor refrigeration cycles. First and Second Law analysis and turbo-machinery. Prerequisite: Engineering 300.

401-1 Thermal Measurements Laboratory. Study of basic physical measurements used in the thermal sciences. Calibration techniques for temperature sensors. Transient and steady-state error analysis. Thermal and transport property measurements. Prerequisite: Engineering 302.

402-3 Heat Exchange Equipment Design. Thermal radiation. Radiation with participating media. Combined convection and radiation. Principles of furnace design. Moist air heating and cooling coils. Enthalpy potential. Cooling coil design. Refrigerant evaporators and condensers. Two-phase flow regions. Freon heat exchangers. Heat pipes. Prerequisite: Engineering 222, 300, 302, and 313.

404-4 Optimization of Process Systems. The simulation and optimization of industrial process systems based on the principles of thermodynamics, heat transfer, mass transfer, and fluid mechanics. The analysis and correlation of experimental engineering data, and the use of the correlated data in process simulations. The mathematical modeling of the performance of energy transfer and environmental treatment equipment (pumps, turbines, mass and heat exchangers, etc.) from analytical predictions and experimental results. The application of the principal optimization methods encountered in engineering practice. Computer applications. Prerequisite: Engineering 361, Mathematics 305 and senior standing in engineering.

405-3 Internal Combustion Engines and Gas Turbines. Operation and performance characteristics of Otto, Diesel, Wankel engines and gas turbines. Methods of engine testing, types of fuels and their characteristics, fuel metering systems, engine combustion analysis as related to engine performance, fuel characteristics and air pollution, exhaust gas analysis, and air pollution control. Prerequisite: 301.

406-3 Thermal Systems Design. Application of the principles of engineering analysis to the design of thermal systems. Consideration of such systems as refrigerators, building air conditioning systems, spacecraft control systems, solar heating systems, and gas liquefying systems. Prerequisite: Engineering 300, 302.

408-3 Energy Conversion and Conservation Systems. Constraints on design and use of energy conversion and conservation systems: energy resources; environmental impact; energy effectiveness; engineering economy. Principles of advanced energy conversion systems; Nuclear fission; combined gas and steam cycles; magnetohydrodynamics; cogeneration of electricity and process steam; coal conversion to synfuels; electric heat pump. Industrial energy management principles. Emphasis on analysis and engineering design of engineering systems. Prerequisite: Engineering 300.

410-3 Hazardous-Waste Engineering and Management. Analyses of hazardous waste generation, storage, shipping, and disposal. Design of disposal systems. Relating hazardous-waste disposal techniques and management with governmental regulations. Prerequisite: 314, Engineering 300.

415-3 Wastewater Treatment. A study of the design equations used in physical, chemical, and biological treatment processes and comparison to design by state standards. Basics of

bacteria and their metabolic processes in the degradation of organic wastes. Treatment and disposal of sludges produced in wastewater treatment. Advanced waste treatment processes; reuse of wastewater. Concurrent enrollment in 417 is recommended for students in thermal and environmental engineering option. Prerequisite: 314.

416-3 Air Pollution Control. Engineering control theory, procedures, equipment, and economics related to particulate and gaseous emissions control. The environmental impact of controlling emissions. Sampling and analysis procedures. Laboratory work includes design, construction, and use of a source sampling system. Safety glasses are required. Concurrent enrollment in 418 is recommended for students in thermal and environmental engineering option. Prerequisite: 314.

417-1 Water Quality Laboratory. Measurements of water quality parameters performed. Use of modern instrumental techniques demonstrated. Safety glasses are required. Prerequisite: 314.

418-1 Air Quality Laboratory. This laboratory consists of design, construction, and use of systems to measure and analyze ambient atmospheric pollution. Safety glasses required. Prerequisite: concurrent enrollment in 416.

419-3 Water Supply and Treatment. Water quality requirements, water sources, water treatment to include coagulation and flocculation, mixing and sedimentation basins, filtration, disinfection processes, and water softening. Consideration of toxic elements in water (sources, problems, and treatments). Prerequisite: 314.

423-3 Waste Heat Management. Energy sources and waste heat produced in their utilization. Management of heated surface water effluents to minimize their ecological impact; chemical, physical, and biological. Methods of waste heat disposal from electric power plants. Selection and design of waste heat disposal systems. Prerequisite: 314, Engineering 300, or consent of instructor.

435-3 Heat and Mass Transfer Processes. Review of single phase and two phase heat transfer. Heat exchanger design. Mass transfer principles and processes. Processes involving simultaneous heat and mass transfer. Prerequisite: 302.

442-3 Solar Energy Design — Residential Systems. Design of solar heating systems for residence with emphasis on passive systems. Heat flow and heat loss. Estimating heat loss and heating requirements of buildings. Energy conserving building design. Predicting performance and economics of a system. Passive cooling. Prerequisite: Engineering 300, 302, 313.

444-3 Solar Energy Design — Commercial and Industrial Systems. Energy auditing and energy conservation techniques for commercial and industrial buildings. Active solar heating and cooling systems. Computer simulation models. Economic evaluation. Industrial process heating systems. Prerequisite: Engineering 300, 302, 313.

492-1 to 5 Special Problems in Engineering. Engineering topics and problems selected by either the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

500-3 Advanced Engineering Thermodynamics.

501-3 Transport Phenomena.

502-3 Advanced Heat Transfer.

503-3 Convective Heat Transfer.

507-3 Combustion Phenomena.

510-3 Solid Waste Collection and Disposal.

515-3 Advanced Biological Treatment Processes.

516-3 Water Resources Management.

517-3 Industrial Waste Treatment.

520-3 Coal Conversion and Combustion Processes.

525-3 Small Particle Phenomena.

531-4 Reaction Engineering and Rate Processes.

532-3 Separation Processes and Equilibrium Operations.

580-1 to 4 Seminar.

592-1 to 4 Special Investigations in Engineering.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Engineering Biophysics (Major [Graduate Only], Courses)

Courses

492-1 to 5 (1 per semester) Colloquy in Engineering Biophysics I. Discussion of topics related to engineering biophysics; guest lecturers, field trips. Offered in spring semesters only. Required for undergraduate engineering biophysics majors. Mandatory Pass/Fail.

592-1 to 3 (1 per semester) Colloquy in Engineering Biophysics II.

598-1 to 6 Internship in Engineering Biophysics.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Engineering Mechanics and Materials

(SEE ENGINEERING)

Engineering Technology (Major, Courses)

Engineering technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the technician and the engineer at the end of the spectrum closest to the engineer.

All curricula in engineering technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (formerly the Engineers' Council for Professional Development.) These curricula are the civil engineering technology, electrical engineering technology, and mechanical engineering technology specializations. For each curriculum, a minimum of 30 hours in engineering technology courses must be taken in residence at Southern Illinois University at Carbondale.

Bachelor of Science Degree, College of Engineering and Technology

ENGINEERING TECHNOLOGY MAJOR — CIVIL ENGINEERING TECHNOLOGY SPECIALIZATION

The civil engineering technology specialization is primarily suited for those students interested in pursuing careers with highway departments or in construction industries. However, the broad range of studies insures a solid technical background in many areas of civil engineering technology. Graduates of the program are employed by railroads, coal companies, consulting engineering firms, state and local agencies, and various construction firms.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Engineering Technology</i>	76
GSD 118.....	(2)
Chemistry 140a.....	(3) + 1
Mathematics 111, 150, 250.....	(4) + 9
Physics 203a, b; 253a, b.....	(6) + 2
Engineering 222.....	2
Industrial Technology 390.....	3
Engineering Technology 103, 202, 245a, 260a, b, 310a, 311, 313a, 314a, 315, 318a, c, 363a, 363b or c, 364a, 365, 426a, approved technical electives-9.....	59
<i>Electives</i>	3
<i>Total</i>	124

ENGINEERING TECHNOLOGY MAJOR — ELECTRICAL ENGINEERING TECHNOLOGY SPECIALIZATION

The electrical engineering technology specialization is designed to prepare technologists who are capable of technical design and who can contribute to the development and production of electrical circuits and devices. In addition, graduates are capable of participation in the planning and installation of power distribution systems and operating and maintaining complex electrical systems. Graduates of the program are employed in communications, power, electronics, sales, manufacturing, and other fields.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Engineering Technology</i>	76
GSD 118.....	(2)
Chemistry 140a.....	(3) + 1
Mathematics 111, 150, 250.....	(4) + 9
Physics 203a, b; 253a, b.....	(6) + 2
Engineering 222.....	2
Industrial Technology 390.....	3
Engineering Technology 103, 245a, 260a, b, 304a, b, 313a, 318a, 332a, b, 403a, b, 437a, b, 438a, approved technical electives-10...	59
<i>Electives</i>	3
<i>Total</i>	124

ENGINEERING TECHNOLOGY MAJOR — MECHANICAL ENGINEERING TECHNOLOGY SPECIALIZATION

The mechanical engineering technology specialization is designed to prepare graduates for a career in the power industry; provides a background in general mechanical technology. Graduates are employed in industries which have a need for technologists trained in the generation, transmission, and utilization of mechanical energy.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Engineering Technology</i>	76
GSD 118.....	(2)
Chemistry 140a.....	(3) + 1
Mathematics 111, 150, 250.....	(4) + 9
Physics 203a, b; 253a, b.....	(6) + 2
Administrative Sciences 301.....	3
Engineering 222.....	2
Industrial Technology 390.....	3
Engineering Technology 103, 104, 245a, 260a,b, 301a, 308a, 311, 313a,b, 318a,b, 320, 323, 424a,b, approved technical electives-9.....	56
<i>Electives</i>	3
<i>Total</i>	124

Courses

Safety glasses, a suitable calculator, and textbooks are required for most of the following courses.

103-3 Engineering Drawing I. Principles and practices of engineering drawing. Orthographic (multiview) projection; sections and conventions; the spatial relationship of points, lines, and planes; and revolution. Drawing supplies and problems workbook required, costing approximately \$15.

104-3 Engineering Drawing II. Principles and practices of engineering drawing. Representation of mechanical components; dimensioning; tolerancing; location and form tolerancing; fluid power diagrams; and welding symbols. Prerequisite: 103.

202-2 Structural Detailing. Principles and practices of engineering drawing as applied to structural design with emphasis on reinforced concrete and structural steel drawings. Drawing supplies required, cost \$8. Prerequisite: 103.

236-2 Electrical Instrumentation. Theory and use of D.C. and A.C. instruments; measurement and error, units, standards, meters, bridges, oscilloscopes, electronic instruments, instruments for generation and analysis of waveforms, counters, and transducers. Laboratory. Prerequisite: Mathematics 111.

244-3 Mechanical Systems for Industry. A mechanical fundamentals course covering such topics as gears, belts, other machine parts, fluidics, and lubrication techniques. No credit granted toward mechanical engineering technology graduation requirements.

245-6 (3, 3) Electrical Systems for Industry. (a) Fundamentals of electrical lighting and

industrial wiring. Motor types, synchronous motors, fractional-horsepower motors, applications, bearings, lubrication and rebuilding. Laboratory. Prerequisite: Mathematics 111. (b) Introduction to electronics: laboratory practices, oscilloscopes, meters, components, power supplies, amplifiers, and characteristics of semiconductor devices. Laboratory. Prerequisite: Mathematics 111.

260-7 (4, 3) Principles of Mechanics. (a) Statics and Strength of Materials. Principles of forces, moments, and static equilibrium; centroids, centers of gravity, and moments of inertia; stress and strain; torsion, bending, and combined stresses. (b) Dynamics. Friction; particles and rigid bodies in translation, rotation, and plane motion; relative motion; impulse and momentum; work and energy. Must be taken in a,b sequence. Prerequisite: Mathematics 150 or concurrent enrollment, Physics 203a.

263-3 Mine Surveying. Development of basic surveying practices and use of surveying equipment, linear and angular measurements; mapping, calculations; applications of mine surveying. Laboratory. Civil engineer's scale required costing approximately \$3. Field notebook for each course costs approximately \$1. No credit granted toward civil engineering technology graduation requirements. Prerequisite: Mathematics 111.

301-6 (3, 3) Refrigeration and Air Conditioning. (a) Discussion of refrigerating cycles. Refrigeration at more than one level. Operation and ratings of various types of compressors, evaporators, condensers, and automatic controls used in commercial refrigerating systems. Heat flow problems in condensers, evaporators, and cooling towers. Prerequisite: 313a. (b) Control of temperature and humidity in buildings, or other large areas. Air handling equipment, duct systems, and air distribution within the space. Fundamental principles and techniques for cooling and dehumidification for comfort. Equipment and control systems. Prerequisite: 313a.

304-7 (4, 3) Electrical Circuits. (a) Solutions to D.C. steady-state networks by branch, equivalent circuit, loop current, and node voltage methods. Study of network theorems. Extension of these topics to A.C. steady-state by use of the phasor transform. Laboratory. Prerequisite: Mathematics 150 or concurrent enrollment. (b) Further topics in A.C. circuits; frequency response, resonance, filters, transformers and magnetic coupling, complex power, and dependent sources. Transient response by the classical solution of differential equations and by Laplace transform methods. Laboratory. Prerequisite: 304a, Mathematics 250 or concurrent enrollment.

308-6 (3, 3) Machine Design. (a) Strength and safety considerations in design of machine parts. Fatigue and stress concentrations, bearings, brakes, clutches and springs. Applications of the principles of mechanics to problems of design and development, mechanisms. Prerequisite: 260a. (b) Combined stresses, gearing, curved beams, high speed cams, thick cylinders, and flat plates. Student undertakes the design of a complete machine. Prerequisite: 308a, 311.

310-6 (3, 3) Heavy Construction. (a) The fundamental elements of heavy construction methods and equipment. Prerequisite: 260a, b or consent of instructor. (b) Construction planning, estimating, and management procedures and techniques. Complete detailed contractor's estimates for bid are prepared for a heavy construction project. Civil engineer's scale required, costing approximately \$3. Prerequisite: 310a.

311-3 Strength of Materials. Bending stresses; combined stresses; beam deflections; behavior of columns. Laboratory. Prerequisite: 260a.

313-6 (3, 3) Elementary Heat Power. (a) The fundamental laws of heat power, properties of systems, liquids, vapors, and liquid-vapor mixtures. (b) Engine cycles and applications. Must be taken in a,b sequence. Prerequisite: Mathematics 150.

314-6 (3, 3) Soil Mechanics. (a) Laboratory determination of the basic properties of soils; components of soil surveys; engineering soil classifications; fundamental study of soil properties. Laboratory. Laboratory notebook required, costing approximately \$4. (b) Soil water and seepage; frost action in soils; soil stabilization; stress distribution in soils and introduction to foundation design. Prerequisite: 260a, 314a.

315-3 Elementary Structural Analysis. Applications of the principles of mechanics to the determination of forces and deflections of statically determinate structures; approximate methods of determining member forces in indeterminate frames; study of various types of structures and loading conditions. Prerequisite: 260a.

318-8 (2, 3, 3) Hydraulics and Pneumatics. (a) Fundamentals of fluid statics, basic fluid flow concepts for idealized fluids, flow networks, and introduction to viscous fluids. Prerequisite: 260b or concurrent enrollment. (b) Viscous flow in closed conduits, basic hydraulic machinery and fluid power systems. Laboratory. Prerequisite: 318a, Engineering 222. (c) Flow measuring devices; collection, storage and distribution of water; collection and transportation of sewage; pumps and pumping. Laboratory. Prerequisite: 318a.

320-3 Mechanical Laboratory. Various types of measuring instruments; gas analysis; lubricant testing, and testing of thermodynamic systems, including internal combustion engines, fans, heat exchangers, and refrigeration systems. Laboratory. Safety glasses required, costing approximately \$4. Prerequisite: 313a.

322-3 Internal Combustion Engines. The design and principles of operation of internal combustion engines. The Otto, Diesel, and Brayton cycles and the fundamental thermodynamic laws involved. Prerequisite: 313a.

323-2 Operation of Public Utilities. (See Economics 323.) Prerequisite: GSB 211 or consent of instructor.

332-6 (3, 3) Electromechanical Principles and Devices. (a) Introduction to D.C. and A.C. machinery. Theory and operating characteristics of D.C. generators and D.C. motors. Laboratory. Prerequisite: 304a or concurrent enrollment. (b) Theory and operating characteristics of polyphase and single-phase A.C. motors. Special applications of A.C. and D.C. motors. Laboratory. Safety glasses required, costing approximately \$5. Prerequisite: 304a or concurrent enrollment.

342-2 Technology Design. An elective project on any technical subject selected by the student with advice from the instructor. Stimulates original thought and creativity. Prerequisite: senior standing.

363-9 (3, 3, 3) Surveying. (a) Use and care of surveying instruments; principles of surveying practice and computations. Laboratory. Prerequisite: 103, Mathematics 111. (b) U.S. Public Land Systems and boundary surveys; route surveying; field astronomy. Laboratory. Prerequisite: 363a. (c) Topographic surveying; precise surveying; geodesy. Laboratory. Prerequisite: 363a. Civil engineer's scale, costing approximately \$3 and field notebook, costing approximately \$1, required for each course.

364-7 (4, 3) Highway Engineering Technology. (a) Highway surveys, plans and computations. Highway design, drainage, roadside development and subgrade structure. Study of types of base courses, pavements, and surfaces. Highway construction and maintenance. Laboratory. Prerequisite: 363a, 314a or consent of instructor. (b) Highway administration, planning, economics, and finances. Traffic engineering. Introduction to railroad and airport design. Prerequisite: 364a.

365-3 Water Treatment and Sanitation. Introduction, description, and design of potable water and wastewater facilities. Chemical coagulation, sedimentation, disinfection, and hardness removal of water. Sanitation measures and control of communicable diseases. Prerequisite: senior standing in civil engineering technology or consent of instructor.

390-3 Cost Estimating. (Same as Industrial Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.

403-8 (4, 4) Electronics Technology. (a) Fundamental theory and operation of semiconductor diodes and bipolar transistors, incremental models for transistors, biasing, stability, and feedback of single and multistage amplifiers. Parameters and applications of field-effect transistors, opto-electronic devices, thyristors, unijunction transistors and amorphous semiconductors. Laboratory. (b) Parameters and applications of operational amplifiers, linear integrated circuits, monolithic voltage regulators, and digital integrated circuits. Laboratory. Must be taken in a,b sequence. Prerequisite: 304b.

415-4 Elementary Structural Design. Introduction to structural properties of steel and reinforced concrete. Design of basic steel elements: tension members, beams, columns, and connections. Basic design of reinforced concrete elements: beams, columns, and footings. Use of AISC and ACI codes. Prerequisite: 311 (or concurrent enrollment), 315.

424-6 (3, 3) Power Systems Technology. (a) Fundamentals of basic power plant operation and equipment; e.g., fuels, steam generators, heat exchangers, turbines, pumps, and nuclear reactors. Prerequisite: 313a. (b) A study of cycles, heat balances, efficiencies and power plant economics. Student is exposed to the design considerations and trade-offs associated with the total design of a power plant. Prerequisite: 313b, 318b, 424a.

426-4 (2, 2) Photogrammetry. (a) Cameras and photography; flight planning; mathematical principles of vertical and tilted aerial photographs; ground control methods; extension of control; stereoscopy and parallax; basic instruments, stereo plotters, and latest developments. Laboratory. Prerequisite: 363a or consent of instructor. (b) Rectification of tilted photographs; stereoscopic plotting instruments; principles and use of oblique photography; analytic photogrammetry and new concepts. Laboratory. Prerequisite: 426a or consent of instructor.

437-6 (3, 3) Communications Systems Technology. (a) Radio-frequency transmission-line theory. Electromagnetic fields in rectangular and circular waveguides. Laboratory. Prerequisite: 304b. (b) Communication systems with a unified treatment of various types of transmission systems with emphasis on the role of system bandwidth and noise in limiting the transmission of information. Laboratory. Prerequisite: 403a, 437a.

438-8 (4, 4) Design of Control and Digital Systems. (a) Fundamentals of control systems; equations of electrical, mechanical, hydraulic, and thermal systems; applications of Laplace transforms, transfer functions, block diagrams and flowgraphs. Computer implemented graphical analysis and design methods: root locus, frequency response. Nyquist diagrams, and compensator design. Continuous-systems simulation laboratory. Prerequisite: 304b, Engineering 222. (b) Design of digital systems; logic operations; number systems and applications. Digital systems simulation laboratory. Prerequisite: Engineering 222.

439-3 Microprocessor Applications and Hardware. A study of microprocessor applications and hardware based on microprocessor manufacturer's literature. System configuration, hardware, requirements, typical instruction set, programming, input/output techniques, interfaces, and peripheral devices. Prerequisite: 438B or concurrent enrollment.

492-1 to 6 Special Problems in Industry and Technology. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected technical problems. Prerequisite: consent of instructor.

English (Department, Major Courses)

The major in English is 36 semester hours at least half of which must be taken at Southern Illinois University at Carbondale. The English major may choose from four specializations.

Students who wish to declare English as a major should consult the director of undergraduate programs in English early in their college careers. Continuing students who wish to declare an English major should petition the Department of English for admission to the department. Transfer students should bring their transcripts and evaluation of transfer credit. Thereafter, all English majors must have their advance registration forms signed by an adviser in the Department of English. Only English courses which are completed with at least a C will fulfill a major requirement. Deviations from regular programs must have prior written department approval.

Students who wish to construct an inter-departmental major in English and certain related fields may do so in consultation and with the approval of an English department adviser.

All students are strongly urged to supplement their English majors through the study of classical and modern languages, as well as the study of foreign literature in translation. Majors preparing for graduate school should take two years of a foreign language.

Although a minor field is not required, students are urged to consider complementary minor fields such as foreign languages and literatures, history, philosophy, and journalism.

ENGLISH CORE CURRICULUM

All students majoring in English will take the following courses:

English 302a, 302b, 309, 390, and 471 or 472.

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts

Students who wish to become certified teachers of English may pursue their majors as follows:

<i>General Studies Requirements</i>	45
GSC 330 must be taken as a part of the GSC requirement.	
<i>Requirements for Major in English</i>	36
<i>Professional Education Requirements</i>	25 ¹
See Teacher Education Program, page 63.	
<i>Electives</i>	14
Students in the College of Liberal Arts must complete the college requirements as a part of the 14 hours. (See page 72.)	

Total..... 120

In addition to the core curriculum teacher training candidates will take the following courses:

English 300; 485; a 400-level course in English literature before 1800; a 400-level course in American literature before 1900; a 400-level course in continental literature; two electives chosen from 300 and 400-level English courses.

¹ In order to qualify for entrance into the teacher education program and for a student teaching assignment, students must have a grade point average of at least 2.50 (4 is 4.0) in the major.

Bachelor of Arts Degree, College of Liberal Arts

A student may wish to pursue one of several specializations in the College of Liberal Arts. The degree earned and the requirements for the degree are as follows:

<i>General Studies Requirements</i>	45
GSC 330 must be taken as a part of the GSC requirement.	
<i>Supplementary College Requirements</i>	
Refer to catalog section titled College of Liberal Arts	6-8
<i>Requirements for Major in English</i>	36
<i>Electives</i>	31-33
<i>Total</i>	120

ENGLISH MAJOR — GENERAL SPECIALIZATION

In addition to the core curriculum, students will take seven electives from the 200, 300, and 400-level courses in English, with several courses at the 400-level. At least one of these elective courses must be a course in English literature before 1800, one a course in American literature before 1900 and one a course in continental literature. In addition, at least one of these elective courses must be in each of the three major genres: prose fiction, poetry, and drama. Students planning to enter graduate school are strongly urged to take two years of a foreign language or the equivalent. Students should consult with their departmental adviser to achieve a suitable range and breadth of course work.

ENGLISH MAJOR — GENERAL WRITING AND CREATIVE WRITING SPECIALIZATION

In addition to the core curriculum, students should take at least two courses selected from English 281, 282, 283; at least two courses from 381, 382, 383; and English 492. Elective courses outside the Department of English may be accepted toward the major with prior written approval of the Department of English.

ENGLISH MAJOR — PREPROFESSIONAL SPECIALIZATION

In addition to the core curriculum, majors interested in such fields as law, business, and government will take the following courses:
English 300, 391, 445; four electives, which may concentrate on a special interest, and which, with the consent of the departmental adviser, may include courses in other departments.

ENGLISH MAJOR — DEPARTMENTAL HONORS PROGRAM SPECIALIZATION

The department honors program is open to all undergraduate English majors who maintain a 3.5 grade point average in their English major courses and a 3.25 average overall. Determination of eligibility will be made at the beginning of the student's second semester of junior level work.
In addition to the core curriculum, the honors student should take at least four elective courses on the 400 level. 200 and 300 creative writing courses may count as electives for students initially enrolled in the creative writing option, and English 300 will count as an elective for students initially enrolled in the teaching option. In addition, the student must take at least one English honors seminar, English 497, for three hours of credit, and write a senior honors research paper. If the student elects, the paper will count for six hours of credit toward the English major. The student may elect to write a paper worth only three hours of credit. In that case the student must take a second English honors seminar worth three hours of credit.
The senior honors paper will be an independent research project undertaken through mutual agreement between the honors student and a member of the continuing English faculty.

Minor

The minor in English is a minimum of 18 semester hours. Minors are available with several specializations, and the following are listed as examples only. Students interested in English as a minor are invited to confer with the director of undergraduate programs in English, or an adviser in the Department of English.

ENGLISH MINOR — TEACHING SPECIALIZATION

For students who wish to meet the minimum certification requirements for teaching English in the secondary schools, the following courses are required: English 209; 300; 390; 471 or 472; and two of the following: English 302a, 302b, 309, 445.

For the following minor specializations, these courses are recommended as part of the 18 hour minimum.

ENGLISH MINOR — PREPROFESSIONAL SPECIALIZATION

English 209; 300; 391; 445; 471 or 472.

ENGLISH MINOR — GENERAL WRITING OR CREATIVE WRITING SPECIALIZATION

Writing minors should take at least one course from English 290, 390; two courses from English 281, 282, 283; and two courses from English 381, 382, 383.

ENGLISH MINOR — WORLD LITERATURE SPECIALIZATION

English 209; 390; and four courses from 425, 438, 445, 455, 465. For further information, see catalog section titled Comparative Literature.

ENGLISH MINOR — OTHER SPECIALIZATIONS

Students wishing to arrange other specializations in English should consult the director of undergraduate programs in English or one of the departmental advisers.

Courses

209-3 Introduction to the Forms of Literature. Poetry, drama, and fiction. Statement and illustration of the techniques of the three genres over the range of American and English literature. Prerequisite: GSD 120; or GSD 117, 118, or 119; or equivalent.

281-3 Creative Writing: Beginning Fiction. Introduction to basic techniques of writing creative prose with emphasis on characterization, plot, and narrative devices. Study and application of various methods of short story writing. Exercises. Critiques. Prerequisite: GSD 120 or 119 or consent of instructor. Elective Pass/Fail.

282-3 Creative Writing: Beginning Poetry. Introduction to basic theories and techniques of poetry writing with emphasis on metrics, forms, and poetic stanzas. Study and application of each of these general aspects of writing poetry. Exercises. Critiques. Prerequisite: GSD 120 or 119 or consent of instructor. Elective Pass/Fail.

283-3 Creative Writing: Beginning Drama. Introduction to basic problems and techniques of dramatic presentation. Emphasis on producing works for the amateur market, with a secondary purpose of advising future teachers of possibilities of using plays, skits, etc., as teaching aids. Exercises in creating original dramatic material. Critiques. Prerequisite: GSD 120 or 119 or consent of instructor. Elective Pass/Fail.

290-3 Intermediate Expository Writing. Designed for any University student, to improve writing skills beyond freshman composition. Based on individual needs and areas of specialization. Prerequisite: GSD 120; or GSD 117, 118 or 119; or equivalent.

291-1 Writing Research Papers. A course for any student in the University who wants or needs intensive, directed help in preparing research papers. Instruction will be individualized by directing students in the use of the style sheet recommended by their major department. Prerequisite: GSD 120; or GSD 117, 118, or 119; or equivalent.

300-3 Introduction to Language Analysis. Nature of language and linguistic inquiry. Dialectology, usage, and chief grammatical descriptions of present day American English. Required of teacher training candidates. Elective Pass/Fail.

302A-3 Literary History of England, Beowulf to 1800. Social, historical, and intellectual backgrounds of English literature with selected readings from each period from Beowulf to 1800. Elective Pass/Fail.

302B-3 Literary History of England, 1800 to Present. Social, historical, and intellectual backgrounds of English literature with selected readings from each period from 1800 to the present. Elective Pass/Fail.

- 309-3 A Literary History of the United States.** Social, historical, and intellectual backgrounds of American literature, with selected readings for each period. Elective Pass/Fail.
- 332-3 Folklore and Mythology.** A survey of non-classical mythology and folklore, emphasizing its medieval and modern aspects as well as the use of folklore in major literary works. Readings will cover Norse, Celtic, and Middle Eastern mythology, their use by English and American writers, such as Tennyson, Irving, and Hawthorne and the popular folk-ballad. Students are encouraged to explore other aspects of world folklore in their independent research papers. Elective Pass/Fail.
- 381-3 Creative Writing: Advanced Fiction.** Emphasis on the long short story and novella with exercises and study oriented to more sustained forms of prose than the short story. Theories and techniques of extended fictional forms treated. Critiques. Prerequisite: 281 or consent of instructor. Elective Pass/Fail.
- 382-3 Creative Writing: Advanced Poetry.** Concentration on modern forms and theories of poetry. Writing assignments and exercises in the application of various poetic techniques, primarily 20th century American. Critiques. Prerequisite: 282 or consent of instructor. Elective Pass/Fail.
- 383-3 Creative Writing: Advanced Drama.** Concentration on serious literary statements through drama, and on practical instruction in writing extended and concentrated dramatic forms. Presentation of various dramatic theories through the study of representative plays. Drama writing exercises and critiques. Prerequisite: 283 or consent of instructor. Elective Pass/Fail.
- 390-3 Advanced Composition.** Expository writing. Prerequisite: C average in GSD 120; or C average in GSD 101 and 117, 118, or 119; or equivalent. Open to English majors and minors or with consent of department.
- 391-3 Precision in Reading and Writing.** To improve the student's ability to read and write with precision and clarity, depending on reading complex material (requiring no particular background for comprehension) and on writing precis of it. Prerequisite: grade of B in GSD 117, 118, or 119; or C in GSD 120; or C in English 290.
- 393-3 to 9 (3 per topic) Special Topics in Literature and Language.** Topics vary and are announced in advance. Both students and faculty suggest ideas. May be repeated as the topic varies. Prerequisite: departmental approval. Elective Pass/Fail.
- 400-3 Introduction to English Linguistics.** Methods of structuralizing: phonetics, phonemics, morphemics, syntax. Especially recommended for students preparing to teach English to native speakers. Elective Pass/Fail.
- 403-3 History of the English Language.** A survey of the development of the language from Indo-European to modern English with special emphasis on Middle and Early Modern changes. Elective Pass/Fail.
- 404-3 Middle English Literature Excluding Chaucer.** Elective Pass/Fail.
- 405-3 Middle English Literature: Chaucer.** Elective Pass/Fail.
- 412-3 English Non-Dramatic Literature: The Renaissance.** Elective Pass/Fail.
- 413-3 English Non-Dramatic Literature: The Restoration and Earlier Eighteenth Century.** Elective Pass/Fail.
- 414-3 English Non-Dramatic Literature: The Later Eighteenth Century.** Elective Pass/Fail.
- 417-3 Black Literature.** Studies in American and African Black literature, with major emphasis upon contemporary Black expression. Elective Pass/Fail.
- 421-3 English Romantic Literature.** Elective Pass/Fail.
- 422-3 Victorian Poetry.** Victorian poets: Tennyson, Browning, Arnold, and other poets in England. Elective Pass/Fail.
- 423-3 Modern British Poetry.** Elective Pass/Fail.
- 425-3 Modern Continental Poetry.** Representative poems by major 20th century poets of France, Italy, Germany, Spain, Russia, and Greece. Elective Pass/Fail.
- 426-3 American Poetry to 1900.** Trends in American poetry to 1900 with a critical analysis of the achievement of the more important poets. Elective Pass/Fail.
- 427-3 American Poetry from 1900 to the Present.** The more important poets since 1900. Elective Pass/Fail.
- 436-3 to 9 (3 per topic) Major American Writers.** Significant writers of fiction and nonfictional prose from the Puritans to the 20th Century. May be repeated only if topic varies, and with consent of department. Elective Pass/Fail.
- 438-3 Intellectual Backgrounds of American Literature.** The relationship of basic ideas in America to American literature. Elective Pass/Fail.
- 445-3 Cultural Backgrounds of Western Literature.** A study of ancient Greek and Roman literature, Dante's *Divine Comedy*, and Goethe's *Faust*, as to literary type and historical influence on later Western writers. Elective Pass/Fail.
- 451-3 Eighteenth Century English Fiction.** Defoe through Jane Austen. Elective Pass/Fail.
- 452-3 Nineteenth Century English Fiction.** Victorian novel: 1830-1880. Elective Pass/Fail.
- 453-3 Modern British Fiction.** Elective Pass/Fail.
- 455-3 Modern Continental Fiction.** Selected major works of European authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse. Elective Pass/Fail.
- 458-3 American Fiction to the Twentieth Century.** The novel in America from its beginnings to the early 20th Century. Elective Pass/Fail.

- 459-3 **American Fiction of the 20th Century.** Trends and techniques in the American novel and short story since 1914. Elective Pass/Fail.
- 460-3 **Elizabethan and Jacobean Drama.** Elizabethan drama excluding Shakespeare: such Elizabethan playwrights as Green, Peele, Marlowe, Heywood, Dekker; and Jacobean drama: such Jacobean and Caroline playwrights as Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley. Elective Pass/Fail.
- 462-3 **English Restoration and 18th Century Drama.** After 1660, representative types of plays from Dryden to Sheridan. Elective Pass/Fail.
- 464-3 **Modern British Drama.** Elective Pass/Fail.
- 465-3 **Modern Continental Drama.** The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain, and Portugal. Elective Pass/Fail.
- 468-3 **American Drama.** The rise of the theater in America, with readings of plays, chiefly modern. Elective Pass/Fail.
- 471-3 **Shakespeare: The Early Plays, Histories, and Comedies.** Elective Pass/Fail.
- 472-3 **Shakespeare: The Major Tragedies, Dark Comedies, and Romances.** Elective Pass/Fail.
- 473-3 **Milton.** A reading of a selection of the minor poems, of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and the major treatises. Elective Pass/Fail.
- 481-3 **Literature for the Adolescent.** Criteria for evaluation of literary materials for junior and senior high school, with emphasis on critical approaches in selection of literature. Elective Pass/Fail.
- 484-3 **Non-Print Media and English.** Theory and application of film and other non-print media to the study and teaching of English. Especially emphasized is the relationship between print and non-print communications systems and verbal and non-verbal systems. Prerequisite: consent of instructor. Elective Pass/Fail.
- 485-3 **Problems in Teaching Composition, Language, Literature and Reading in High School.**
- 491-3 **Expository Technical Writing.** An all-university course designed to teach advanced academic and professional (non-fictional) writing skills. Prerequisite: GSD 117, 118, or 119, or equivalent. Elective Pass/Fail.
- 492-3 to 9 **Creative Writing: Senior Writing Project.** The topic varies among the writing of poetry, drama, or prose. A directed written project will be submitted at the end of the semester in prose, poetry, or drama. A collection of short stories or poems, a novel or play of what instructors consider to be acceptable quality will fulfill the Senior Project requirement. An alternative to the Senior Project may be an internship in a publishing firm if appropriate arrangements can be made by the department. Prerequisite: consent of the instructor. Elective Pass/Fail.
- 493-3 to 9 (3 per topic) **Special Topics in Literature and Language.** Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Elective Pass/Fail.
- 494-3 **Literary Criticism Applied to Film.** The course will deal with the history and theories of literary criticism. Students will have the opportunity to apply concepts of literary criticism to a series of films which they will view. A \$10 screening fee is required. Elective Pass/Fail.
- 495-3 **Literary Criticism.** Includes both history of criticism and modern criticism. Open only to seniors and graduate students. Elective Pass/Fail.
- 496-3 to 6 (3, 3) **Topics in Women's Literature.** (Same as Women's Studies 454.) Syllabus, which may vary with instructor, identifies new areas of research on women authors, and includes an examination of appropriate critical models that have emerged in feminist criticism.
- 497-3 to 9 (3 per topic) **Senior Honors Seminar.** Topics vary yearly. May be repeated as the topic varies. Prerequisite: departmental approval and undergraduate status.
- 499-1 to 6 (1 to 3, 1 to 3) **Readings in Literature and Language.** For English majors only. Prior written departmental approval required. May be repeated as the topic varies, up to the maximum of six semester hours.
- 500-3 **Introduction to Graduate Study in English.**
- 506-3 to 12 **Anglo-Saxon and Medieval Studies.**
- 510-3 to 12 **Renaissance Studies.**
- 516-3 to 12 **Restoration and 18th Century Studies.**
- 530-3 to 12 **19th Century English Literature.**
- 533-3 to 12 **Early American Literature.**
- 539-3 to 12 **Modern American Literature.**
- 550-3 to 12 **Modern British Literature.**
- 579-3 to 12 (3 per topic) **Studies in Modern Literature.**
- 581-3 to 9 (3 per topic) **Problems in Teaching English.**
- 585-3 **Teaching College Composition.**
- 593-3 to 12 **Special Topics.**
- 595-1 to 9 **Independent Readings.**
- 596-3 to 12 **Language Studies.**
- 600-1 to 36 (1 to 16 per semester) **Dissertation.**
- 601-1 to 12 **per semester Continuing Research.**

Environmental Design (Major [Graduate only] Courses)

Courses

411-1 to 6 Workshop. Current topics and problems facing professionals in the field of design. Discussion, reports, lectures, and other methods of analyzing and working on environmental design problems. Emphasis stated in announcement. Maximum of three hours per topic. Prerequisite: senior standing and consent of instructor.

412-1 to 3 Seminar. Special topics and projects considered at stages of design, production, sale, or use. Individual preparations and presentations required. Prerequisite: senior standing or consent of instructor.

413-1 to 4 Readings. Supervised study of selected, relevant literature in area of individual interest related to environmental design. Prerequisite: senior standing or consent of instructor.

414-1 to 6 Special Problems. Directed independent work and study in areas determined by individual needs and interests. Maximum of three hours counted toward master's degree. Prerequisite: senior standing or consent of instructor.

500-3 Research Methods and Problem Solving.

504-3 Systems in Environmental Design.

508-3 Environmental Integration.

510-3 to 6 Practicum.

531-3 Spatial Concepts in Design I.

532-4 Spatial Concepts in Design II.

541-3 Application of Science and Technology to Design.

551-3 Anticipatory Design.

598-1 to 6 Project.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Family Economics and Management (Major, Courses)

This bulletin lists the major and courses as family economics and management. Approval has been given to change the name to consumer economics and family management. The new name will be effective for the period covered by this bulletin.

The family economics and management program is a part of the Division of Human Development. Issues in consumer economics, management, and housing are of growing interest to consumers, business, and society. This program is concerned with (1) consumer's role and effectiveness in the marketplace, (2) the family's management of limited or restricted resources, and (3) the social and economical aspects of housing. Two specializations, consumer services in business and family services consultant, are offered leading to the Bachelor of Science degree. A minor in consumer studies is also available.

Bachelor of Science Degree, College of Human Resources

<i>General Studies Requirements</i>	46
GSA	9
GSB 202, 203, and 211 required	10
GSC	9
GSD 101, 117 or 118, 153, 113 and either 110 or 112, or 107 required	12
GSE	4
<i>Requirements for Major in Family Economics and Management</i>	41-43
Family Economics and Management 240, 330, 340, 350, 445, 494-4, 499	20
Specialization Requirements	20-23
See Requirements listed below	

<i>Electives</i>	31-33
<i>Total</i>	120

CONSUMER SERVICES IN BUSINESS SPECIALIZATION

This specialization prepares students for professional opportunities in consumer affairs in industry and government. Special emphasis is placed on the role of the consumer in the marketplace and the consumer's relationship to private enterprise and government agencies. A key focus of the program is the application of concepts and the critical analysis of problems and issues affecting the consumer's interests and choices.

<i>Specialization Requirements</i>	21
Family Economics and Management 341, plus six additional hours	9
Finance 271	3
Marketing 304	3
Journalism 340 or 341	3
Administrative Sciences 301 or 304	3
<i>Recommended Electives</i>	33
Family Economics and Management 370; GSA 220, 221, 230, 240, 312; GSB 212; Accounting 210; Clothing and Textiles 352, 104, or 304; Finance 327, 328, 370, 372; Food and Nutrition 100, 156, 321, 335, 356; Marketing 305, 329, 363; Political Science 321; Radio-Television 467; Speech Communication 221.	

FAMILY SERVICES CONSULTANT SPECIALIZATION

This specialization is designed to give students a knowledge and understanding of the family's management and allocation of resources. This specialization prepares students for employment in public and private welfare agencies, cooperative extensions and local government and other programs. The low-income family is of particular interest in this specialization. Elective courses should reflect the student's personal employment goals. The program is tailored to meet the theoretical as well as applied concepts in preparing students to serve individuals and families of various ages, physical abilities, and income levels.

<i>Specialization Requirements</i>	23
Family Economics and Management 320, 351, 370	7
Child and Family 227, 366	6
Health Education 330	3
Food and Nutrition 100	3
Social Welfare 383	4
<i>Recommended Electives</i>	31
Economics 304; Family Economics and Management 331, 430; GSE 236; Black American Studies 330; Psychology 307; Social Welfare 375, 401, 402, 463; Sociology 302, 335, 435; GSA 220, 221, 230, 240, 312; Clothing and Textiles 150, 352; Journalism 340, 341.	

Minor in Consumer Studies

The consumer studies minor offered through the Division of Human Development is designed to give students background in consumer economics and home management. The selection of courses is flexible so that course work can be adapted to the special interests of students with diverse goals and backgrounds.

Required courses: Family Economics and Management 240, 340, and 350; three courses to be selected from the following: Family Economics and Management 320, 330, 331, 341, 351, 370, 407, 420, 430, 451, 494, and GSB 346.

Courses

See also Human Development for additional 400 and 500-level courses.

240-3 Consumer Resources. An introduction to the resources available to young adults in tackling consumer problems and disputes in housing, automobile care, health services, food purchases, educational expenditures, money management, and other areas of interest to the student. Special attention is given to community and university agencies such as IPIRG, tenant union, chamber of commerce, attorney general's office, and other organizations helpful in resolving problems.

320-2 Household Equipment. Materials, construction, selection, operation, and care of equipment to provide maximum satisfaction to the family are identified. Some emphasis placed on design and use of kitchen and laundry areas.

330-3 Housing. An examination of the physical characteristics of housing as they relate to family needs, wants, and capabilities, as well as the social and economic factors which affect satisfaction associated with family shelter. Field trip.

331-3 Human Environment and Living Space. A study of the living spaces of homes and the relationship of these spaces to the social, economic and aesthetic needs of humans.

340-3 Consumer Problems. Study of family income and expenditure patterns, selection of commodities and services, and an analysis of consumer protection devices.

341-3 Consumers and the Market. The impact of market and governmental activities on consumers' decision-making. Analysis and evaluation of programs designed to inform and to protect consumers.

350-3 Management of Family Resources. A study of factors affecting the management of the home in meeting needs of individuals and creating a satisfying environment for the family. Special consideration given to management of time, money and energy resources.

351-2 Home Management Practicum. Analysis of current management situations and family resources use with practical application of basic principles. Additional costs required. Prerequisite: 350 and consent of chairperson.

370-3 Management for Low-Income Families. Job-oriented course for social welfare careers; selected concepts in family economics and management with application to the low-income family.

380-2 to 6 Special Problems. Selection and investigation of a special problem under personal supervision of departmental faculty, approved by chairperson and instructor. Every semester.

407-1 to 3 Workshop. Designed to aid workers in professions related to use of family resources. Emphasis for each workshop will be stated in the announcement of the course. Every semester.

420-3 Trends in Household Equipment. Design, function, principles of operation, current trends, and ecological problems related to equipment use in household and society are considered. Prerequisite: 320.

430-3 Housing Alternatives. Selected aspects of the housing market and their relationship to changing life styles of households. Structure, operations and performance of the housing market and home building industry, housing finance, and contemporary housing problems and issues are considered. Fall Semester. Prerequisite: 330 or consent of instructor.

445-3 Family and Financial Management. Developments in family financial management and the evaluation of methods and procedures for helping families, with emphasis on the role of the consultant. Case studies and simulation, as well as field problems, are included. Fall semester and alternate summers. Prerequisite: 340 and 350, equivalent, or consent of instructor.

451-3 Household Activity Analysis. A study of work methods and place, as well as the characteristics of the worker, in relation to solving problems of employed, full-time, and handicapped home managers.

480-3 Women in the Home and Labor Market. An evaluation and interpretation of the economic contributions of women in household production and in the labor market. Related issues such as fair employment practices, role conflicts, and legal issues will be considered.

494-1 to 4 Field Experience. Supervised learning experiences in an acceptable employment area. Every semester. Prerequisite: 370 and consent of chairperson.

499-1 Senior Seminar. A study of contemporary issues in the field of family economics and management including the concerns of new professionals entering the field. Not for graduate credit.

530-3 Societal Factors in Housing.

535-3 Housing Consumption.

540-3 Consumption Trends.

550-3 Advanced Home Management.

Finance (Department, Major, Courses)

The financial implications of decisions in both business and government are daily

becoming more complex. Within the firm, financial considerations permeate the concentrations of research, engineering, production, and marketing. Within governmental activities, sophisticated financial techniques are becoming increasingly important. The financial executive thus takes a key role in the successful management of both business and governmental operations.

The finance curriculum offers two areas of specialization to meet the varied interests of students: (1) financial management and (2) financial institutions. The financial management program provides the background for a career in the financial operations of business firms and public institutions. The financial institutions specialization is designed for those interested in the operations of financial intermediaries and financial markets.

Bachelor of Science Degree, College of Business and Administration

<i>General Studies Requirements</i>	45-46
<i>Professional Business Core (See page 61.)</i> ²	47-48
<i>Requirements for Major in Finance</i>	21
Finance 323, 325, 421	9
Specialization (Choose one)	12
Financial Institutions	
Select four: 326, 327, 328, 372, 424, 474, 475, Economics 416	
or	
Select four: 327, 328, 329, 350, 378, 379, 301	12
Financial Management	
Select one additional upper division accounting course	(3) ¹
Select three: 327, 372, 474, 475, 480	9
<i>Electives</i>	5-7
<i>Total</i>	120

¹Hours shown in parentheses are already included in total hours shown for professional business core.
²Courses outside of major should be selected from: Accounting 341, 321, or 322; Economics 315, 330, 340, or 341; Marketing 363 or 390; and Administrative Sciences 350, 352, or 361.

Courses

- 271-3 Business Law I.** Legal problems arising from situations involving contracts and agency and business organizations. Not pass/fail for business majors. Elective Pass/Fail.
- 300-3 Internship in Finance.** Designed to provide an opportunity to relate certain types of work experience to the student's academic program and objectives. Approved internship assignments with cooperating companies in the fields of finance are coordinated by a faculty member. Not repeatable for credit. Prerequisite: consent of department chairperson. Mandatory Pass/Fail.
- 301-1 to 6 Readings in Finance.** Readings in classical and current writing on selected topics in various areas in the field of finance. Prerequisite: consent of department chairperson. Mandatory Pass/Fail.
- 320-3 Introduction to Business Finance.** Principal problems of managing the finance function of a business firm. Emphasis on asset acquisition and management, and financial structure planning and management. Prerequisite: Accounting 230, Economics 215, Administrative Sciences 208 and junior standing.
- 323-3 Investments.** Survey of the problems and procedures of investment management; types of investment risks; investment problems of the individual as well as the corporation. Prerequisite: Accounting 210 or 220 and junior standing. Elective Pass/Fail.
- 325-3 Financial Markets.** Operations of capital markets. Sources and uses of funds of financial institutions. Prerequisite: Economics 214, 215, Administrative Sciences 208 and junior standing.
- 326-3 Management of Financial Institutions.** Principal policies and problems which confront top management. Emphasis on liquidity, loans, investments, deposits, capital funds, financial statements, organization structure, operations, personnel, cost analysis, and public relations. Prerequisite: 320 and junior standing.
- 327-3 Insurance.** Fundamentals of insurance and risk management including a study of selected insurance contracts and alternative methods of controlling risk exposures. Prerequisite: junior standing. Elective Pass/Fail.
- 328-3 Real Estate.** Problems of real estate ownership, management, financing, and development. Prerequisite: junior standing. Elective Pass/Fail.

329-3 Risk Management and Insurance. The management of pure risk as used in business. Identification, measurement, and alternative methods of dealing with risk: theory and practice. Business insurance including forms, markets, and applications considered both for small and large businesses. Prerequisite: 327 or concurrent enrollment.

350-3 Small Business Financing. Financing problems involved in raising venture capital, debt type funds, expansion funds, and government sponsored funding. Budgeting, working capital management, and fixed asset planning are covered. Prerequisite: Accounting 230 and Economics 215 or consent of department; junior standing. Elective Pass/Fail.

370-3 The Legal and Social Environment of Business. An examination of the legal, social, and political forces that influence business and businessmen. Particular attention to the role of law as an agency of social control in the modern business society. Prerequisite: junior standing. Elective Pass/Fail.

372-3 Business Law II. Legal problems arising from situations involving sales, commercial paper, secured transactions, and property. Prerequisite: junior standing.

378-3 Real Estate Appraisal. The technique and art of real estate valuation using market comparison, cost, and income approaches. Includes appraisal principles, procedures, and applications. Prerequisite: 328 or consent of instructor and junior standing.

379-3 Real Estate Law. A survey of legal principles applicable to real property, including the following: conveyances, titles, land descriptions, rights and duties of ownership, and the law of real estate brokerage. Prerequisite: 328 or consent of instructor and junior standing.

421-3 Management of Business Finance. The principal problems of managing the financial operations of an enterprise. Emphasis upon analysis and solutions of problems pertaining to policy decisions. Prerequisite: 320.

422-3 Acquisitions, Divestments, and Recapitalization. A study of the issues involved in developing financial plans for external growth, divestment, and recapitalization. The case approach is emphasized in the course. Prerequisite: 320.

424-3 Portfolio Theory and Management. Examination of modern concepts relating to management of security portfolios. Topics include security analysis, Markowitz Portfolio Theory, efficient market hypothesis, portfolio performance measurement, risk, and portfolio construction. Prerequisite: 320, 323, or consent of instructor.

474-3 Working Capital Management. Short-term budgeting and forecasting techniques used in business; alternative approaches to working capital management including consideration of certainty, risk and uncertainty; theory and applications in management of cash, marketable securities, accounts receivables, inventory, banking relationships, and short-term sources of funds. Prerequisite: 320.

475-3 Forecasting and Capital Budgeting. Long-term forecasting techniques used in business; alternative approaches to capital structure decisions, cost of capital measurement, and performance measurement for investment decisions including mergers and leasing; explicit consideration of certainty, risk, and uncertainty in investment analysis; theory and applications in private and public sectors. Prerequisite: 320.

476-3 Problems in Labor Law. Social, economic, and legal evaluations of recent labor problems, court decisions, and legislation. Concern is on long-run legislative impact on manpower planning, dispute settlement, and utilization of employment resources. Elective Pass/Fail.

480-3 International Financial Management. Financial behavior of multinational firms. Emphasis on the modification of conventional financial models to incorporate uniquely foreign variables. Prerequisite: 320.

Food and Nutrition (Major, Courses)

The food and nutrition program is a part of the Division of Human Development.

Students will be required to take field trips in those courses so designated with the expenses pro-rated for each student. Appropriate uniforms will be required of all students enrolling in those courses that involve preparation of food.

Bachelor of Science Degree, College of Human Resources

FOOD AND NUTRITION MAJOR — DIETETICS SPECIALIZATION

These courses give a strong scientific education to those interested in becoming dietitians in hospitals, college dormitories, industrial plants, health clinics, laboratories, or public health and welfare organizations. They meet the requirements of the American Dietetics Association.

<i>General Studies Requirements</i>	45
<i>Requirement for Major in Food and Nutrition with Specialization in Dietetics</i>	57-58

GSA 115, 209.....	(6)
GSB 104 or 203, 202, 211	(9-10)
GSD 107.....	(4)
GSD 112.....	2
Electronic Data Processing 107.....	3
GSD 118.....	(2)
Administrative Sciences 301 or 304.....	3
Animal Industries 210.....	3
Chemistry 140a, b	(4) + 4
Child and Family 237	3
Food and Nutrition 100, 156, 256, 320, 335, 356, 360a, 361, 362, 363, 470, 420 or 490.....	33
Vocational Education Studies 321 or Psychology 309	2-3
Microbiology 301	4
<i>Electives</i>	17-18
Recommended Electives: GSE 236; Child and Family 227; Food and Nutrition 360b, 372, 373, 421; Microbiology 421, 422; Physiology 300	
<i>Total</i>	120

FOOD AND NUTRITION MAJOR — FOOD AND LODGING SYSTEMS MANAGEMENT
SPECIALIZATION

These courses prepare students for positions as food systems managers for restaurants, hotels, school food service, public and private lodging facilities, airlines, industrial feeding, resorts, institutions, hospitals, and clubs. They meet the requirements as set forth by industry, the Council of Hotel, Restaurant, and Institutional Education, and the National Restaurant Association. Through this program in the hospitality field, transfer students from community colleges also will be able to complete their baccalaureate degrees.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Food and Nutrition with Specialization in Food and Lodging Systems Management</i>	60
GSA 115, 209	(6)
GSB 202	(3)
Accounting 220, 230.....	6
Administrative Sciences 304, 385.....	6
Animal Industries 210.....	3
Chemistry 140a.....	(4)
Finance 271.....	3
Food and Nutrition 100, 156, 256, 335, 360a,b, 361, 362, 363, 371, 372, 373	32
Marketing 304.....	3
Microbiology 301	4
Psychology 320.....	3
<i>Electives</i>	15
Recommended electives: GSE 236; Chemistry 140b; Child and Family 227, 237; Electronic Data Processing 107; Food and Nutrition 320, 420, 421, 470; Microbiology 421	
<i>Total</i>	120

FOOD AND NUTRITION MAJOR — FOOD AND NUTRITION SCIENCE SPECIALIZATION

These courses give a strong scientific education to those interested in preparing for graduate study in food, nutrition, or related discipline; for research in university,

industrial, or governmental laboratories; or for educational and promotional work in industry or public health organizations.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Food and Nutrition with Specialization</i>	
<i>in Food and Nutrition Science</i>	50
GSA 115, 209	(6)
GSB 202	(3)
Chemistry 222a,b, 340, 341, 450	(4) + 14
Food and Nutrition 100, 156, 256, 320, 356, 420, 421	20
Mathematics 110a,b,	(4) + 1
Microbiology 301, 421, 422	9
Physiology 411a	2
Psychology 211	4
<i>Electives</i>	25
Recommended electives: Chemistry 451a,b; Child and Family	
227, 237; Food and Nutrition 490; Health Education 490;	
Physiology 300, 410a,b, 420.	
<i>Total</i>	120

Courses

See also Human Development for additional 400 and 500-level courses.

100-3 Fundamentals of Nutrition. Emphasis on basic principles of food and nutrition in relation to personal health. Elective Pass/Fail.

156-3 Fundamentals of Foods. An introduction to the basic principles and techniques of food preparation. A charge of \$8 will be made for laboratory.

247-3 (1, 1, 1) The School Lunch Program. (a) Food purchasing; (b) quantity food production; and (c) nutrition practices in the school lunchroom. Elective Pass/Fail.

256-3 Science of Food. Application of scientific principles of food preparation. A charge of \$10 will be made for laboratory. Prerequisite: 156, Chemistry 140 or equivalent.

320-3 Nutrition. Principles of nutrition in relation to intermediary metabolism and the role of vitamins and minerals. Prerequisite: 100, Chemistry 140 or equivalent.

321-2 Food and Nutrition Demonstration. Emphasis on principles of food and nutrition including food standards and demonstration techniques. Field trip. Prerequisite: 256.

335-2 Meal Management. The selection, purchase, preparation, and service of food with emphasis on time and money management. A charge of \$8 will be made for laboratory. Prerequisite: 256.

356-3 Experimental Foods. Experimental approach to the study of factors influencing the behavior of foods. Individual problems. A charge of \$10 will be made for laboratory. Prerequisite: 256.

360-6 (3, 3) Quantity Food Production. (a) Use of power equipment, standardized formulas, and techniques of quantity preparation and service of food to large groups; (b) Practical experiences in area food service units. Prerequisite: 256 or equivalent.

361-3 Food Service Organization and Management. Policies, budgets, supervision, and personnel in feeding large groups. Field trip.

362-2 Institution Equipment and Layout. Selection and arrangement of various types of institutional food service equipment, including materials, construction operation, cost, use and care. Field Trip. Prerequisite: 361.

363-2 Food Purchasing for Institutions. Principles and methods of purchasing food in quantity. Field trip. Prerequisite: 361.

371-2 to 6 Field Experience. Opportunity for supervised learning experiences in the student's major. Prerequisite: consent of instructor or chairperson. Elective Pass/Fail.

372-2 Food Systems in the Lodging Industry. Principles and concepts in developing and operating food production systems in the lodging and tourism industry. Prerequisite: Accounting 210 or equivalent.

373-2 Food and Beverage Controls. Duties and responsibilities of the manager in restaurant, catering, hospitals, and club operations. The use of management methods in budgeting, forecasting, controlling costs, and establishing operational policies in food and beverage cost control. Prerequisite: Accounting 210 or equivalent.

410-3 Educational Nutrition. The objective of this course is to provide teachers in public and non-public elementary and secondary schools with the necessary background to incorporate food and nutrition into the educational curriculum.

- 420-3 Recent Developments in Nutrition. Critical study of current scientific literature in nutrition. Prerequisite: 320 or equivalent. Elective Pass/Fail.
- 421-2 Recent Trends in Food. Critical study of current scientific literature in food. Prerequisite: 320 or equivalent. Elective Pass/Fail.
- 470-3 Nutrition Therapy I. Physiological and biochemical changes in certain diseases and the appropriate nutrition therapy. Prerequisite: 320, Chemistry 140b or 352, and Physiology 210.
- 480-3 Community Nutrition. Offers a study of the objectives, implementation strategies, and evaluation methods of nutrition programs in communities' health programs. Integration of nutrition into the health care delivery system at local, state, and federal levels is included.
- 490-3 Nutrition and Growth. The study of human nutrition during each phase of the life cycle, prenatal through geriatric. Students elect at least two phases for in-depth study. A general review of basic nutrition is included. Prerequisite: consent of instructor and department chairperson. Elective Pass/Fail.
- 520-2 Advanced Nutrition.
- 556-3 Advanced Experimental Foods.
- 580-1 to 18 (1 to 12 per semester) Nutrition Practicum in the Community.

Foreign Languages and Literatures (Department, Majors, Courses)

Majors and minors are offered in classics (minor: classical civilization), French, German, Russian, and Spanish. Minors are also offered in Chinese, classical civilization, classical Greek, East Asian civilizations, Japanese, and Latin. A student majoring in a foreign language who has taken four years of that language in high school is expected to begin with 300-level courses and to take more upper level courses. Transfer students planning to major in a foreign language must complete a minimum of 12 semester hours of courses in that language at Southern Illinois University at Carbondale. No courses completed with a grade below C will be counted toward fulfillment of the requirements for a major. For modern foreign languages, both oral and written language competency must be demonstrated in separate examinations. Students should plan to take these exams no later than two semesters prior to graduation so there is time to make up possible deficiencies before graduation. For students preparing to teach in the public schools, the oral and written competency examinations must be passed before student teaching is begun. Every foreign language major must have a departmental advance registration form, signed by the appropriate adviser in the department, before proceeding to college advisement and registration.

Bachelor of Arts Degree, College of Liberal Arts

(WITHOUT SECONDARY SCHOOL TEACHING CERTIFICATE)

General Studies Requirements	45
Supplementary College Requirements (See page 72.)	(4) + 8-14
Though not required, a minor of at least 15 hours is recommended. This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
See the Spanish description for a major program which combines a Spanish major with a minor in secretarial and office specialties.	
Requirements for Major in Foreign Language	36 ¹
Except for classics, 100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level.	
Electives	25-31
Total	120

¹See individual language listings for specific requirements.

Bachelor of Arts Degree, College of Liberal Arts

(WITH SECONDARY SCHOOL TEACHING CERTIFICATION)

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72.)	(4) + 8-14
Though not required, a minor of at least 15 hours is recommended. This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
<i>Requirements for Major in Foreign Language</i>	36 ¹
Except for classics, 100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level. Foreign Languages 436 will be one of those courses required on the 400-level for majors in French, German, Russian, and Spanish.	
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Electives</i>	0-6
<i>Total</i>	120

¹See individual language listings for specific requirements.**Bachelor of Science Degree, College of Education**

For College of Education students majoring in a foreign language, the scheduling of those classes which apply to the major must be done with the appropriate adviser from the Department of Foreign Languages and Literatures.

<i>General Studies Requirements</i>	45 ²
<i>Requirements for Major in Foreign Language</i>	36 ¹
Except for classics, 100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level. Foreign Languages 436 will be one of those courses required on the 400-level for majors in French, German, Russian, and Spanish.	
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Electives</i>	14
<i>Total</i>	120

¹ See individual language listings for specific requirements.² See catalog section titled Curriculum, Instruction, and Media for specific certification requirements.

Placement. The student who has completed only one year of foreign language in high school normally begins with the first semester course. The student who has successfully completed two years of study in high school of any language currently taught in the department may begin with the second year level without having to take the placement proficiency examination. Those students who have successfully completed three or more years of high school language should consult the departmental adviser for that language.

Minor

A minor in a foreign language is constituted by 18 hours in courses above the first-year level. See individual language listings for specific requirements. State certification requirements, in terms of total semester hours of subject matter courses,

may be met in part by counting first-year foreign language courses or by doing additional advanced work.

A minor in classical civilization or East Asian civilizations is constituted by 15 hours of courses to be selected in consultation with the appropriate sectional adviser.

Secondary Concentration for Majors in the College of Business and Administration

The Department of Foreign Languages and Literatures participates with the College of Business and Administration's major program in business and administration by offering a secondary concentration of 20-23 hours for those students who wish to formulate an academic program leading to a career specialization which combines business and a foreign language.

The secondary concentration varies according to the language chosen, but does not normally exceed 23 hours and involves course work from the 100 through the 400 levels. For specific course requirements in the respective languages, interested students should contact advisers in the Department of Foreign Languages and Literatures.

GENERAL FOREIGN LANGUAGE COURSES

Courses

199-3 to 9 (3 per topic) Self Instructional Language. A passive skills (listening and reading) self-instructional program in (a) Italian, (b) Korean, and (c) Portuguese which are not normally offered by the department. Unsupervised language study using language laboratory facilities and designated text materials. Credit granted upon successful completion of proficiency examination. Prerequisite: consent of department chairperson. Mandatory Pass/Fail.

300-3 to 6 (3, 3) Masterpieces of World Literature. Readings from and discussions of both Western and Eastern literatures, taken from ancient to modern times. Occasional guest lectures by faculty of the department, who speak on their areas of special interest. All readings and lectures in English. Elective Pass/Fail.

436-3 Methods in Teaching Foreign Languages. Survey of general principles of second-language teaching, based upon insights of modern linguistics and learning-psychology. Followed by intensive practical work in classroom and language laboratory with teachers experienced in the student's specific language field. Required of prospective teachers of foreign languages in secondary schools. Prerequisite: concurrent or prior enrollment in 300-level course in French, German, Latin, Russian, or Spanish. Elective Pass/Fail.

437-1 to 6 Workshop in High School Foreign Language Instruction. Familiarizes high school teachers with recent curricular developments in foreign language teaching with emphasis on practical classroom application of instructional innovations. Prerequisite: 436 or consent of instructor. Elective Pass/Fail.

475A-12 to 34 Full Year Abroad in Austria. Two semesters at the Padagogische Akademie at Baden and at various institutions of higher learning in Vienna. All courses are taught in German. Students may obtain 30 to 34 semester hours of credit in German language, literature and civilization and with prior approval in elective areas of study including music, art, architecture, history, anthropology, political science, physical education, and sociology. Not for graduate credit. Prerequisite: 5 semesters of college German or equivalent with 3.0 grade point average.

506-1 to 4 Research Problems — French.

507-1 to 4 Research Problems — German.

508-1 to 4 Research Problems — Russian.

509-1 to 4 Research Problems — Spanish.

535-2 Critical Theory.

566-2 Bibliography and Research Techniques — French.

567-2 Bibliography and Research Techniques — German.

568-2 Bibliography and Research Techniques — Russian.

569-3 Bibliography and Research Techniques — Spanish.

CHINESE (Minor, Courses)

Minor

Chinese courses above 100 level. 18

200 level: 201a,b	10
300 level.	8

Courses

120-8 (4,4) Elementary Chinese. Standard (Mandarin) Chinese. The basic skills of listening, speaking, reading, and writing. No previous knowledge of Chinese required. Must be taken in a, b sequence. Elective Pass/Fail.

201-10 (5,5) Intermediate Chinese. Standard (Mandarin) Chinese. Development of listening, speaking, reading, and writing on the intermediate level. Must be taken in a, b sequence. Prerequisite: 120b or equivalent. Elective Pass/Fail.

305-2 to 4 (2,2) Individualized Language Study. Designed to improve language skills beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent. Elective Pass/Fail.

306-6 (3,3) Readings in Chinese. Designed to give students with some Chinese background proficiency in reading modern Chinese. Special attention to cultural readings. Must be taken in a, b sequence. Prerequisite: 201b or equivalent. Elective Pass/Fail.

410-3 The Linguistic Structure of Chinese. (Same as Linguistics 411.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or introduction to linguistics. Elective Pass/Fail.

CLASSICS (Major, Minors [Greek, Latin, Classical Civilization], Courses)

Bachelor of Arts Degree, College of Liberal Arts

Classics courses and courses from participating departments	36
Original Greek and Latin courses, two years of one language or one year of each	12-16
Electives: additional courses in Greek, Latin, or classical civilization (225, 270, 271, 310, 332, 405, 406, 441, 496)*; Classics 396; GSC 231, 232, 330; courses from participating departments (limited to 12 hours): Anthropology 304; Art 307, History 310, 313; Philosophy 304, 407, 471; Political Science 404.	20-24

**Bachelor of Science Degree, College of Education, or
Bachelor of Arts Degree, College of Liberal Arts
(with secondary school certification)**

Courses in Classics.	36
Language Courses in Latin and Greek.	30
In Latin, 133, 202, 320, and 5 hours of 300-level Latin.	22
In the original Greek, 8 hours from among: 130, 201, or any 300-level Greek courses	8
GSC 232 (Roman Civilization).	3
Foreign Languages 436	3

Also recommended are 332, GSC 231, and GSC 330.

Minor in Greek

Greek courses above 100-level	18
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Minor in Latin

Latin courses above 100-level (388 and 488 may not be counted); 320 recommended	18
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Minor in Classical Civilization

Courses to be selected in consultation with adviser from Greek,
Latin, or classical civilization (225, 270, 271, 310, 332, 405, 406,

441, 496)¹; courses also recommended: GSC 231, 232, 330; and either Classics 100 or 101 15²

¹Classical civilization includes all classics courses above the 100-level for which no knowledge of Greek or Latin is required.
²18 hours are required for state certification.

Courses

- 100-2 Greek and Latin in English.** Vocabulary building through roots, prefixes, and suffixes. Recommended for students interested in the origin of English words. No knowledge of Greek or Latin is required. Elective Pass/Fail.
- 101-3 Scientific Terminology: Greek and Latin Derivatives.** Analysis of common vocabulary and of basic scientific terminology into its component prefixes, roots, and suffixes. The course concentrates on methods for recognizing and understanding polysyllabic technical terms. No prerequisite required. No knowledge of Greek or Latin is required.
- 130-8 (4, 4) Elementary Classical Greek.** The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Ancient Greek in order to enable them to progress to the reading of the Greek classics and New Testament. Must be taken in a,b sequence. No previous knowledge of Greek required. Elective Pass/Fail.
- 133-8 (4, 4) Elementary Latin.** The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Latin in order to enable them to progress to the reading of the Latin classics. No previous knowledge of Latin required. Must be taken in a,b sequence. Elective Pass/Fail.
- 201-6 (3, 3) Intermediate Greek.** Reading and interpretation of selected works by authors such as Xenophon, Plato, Homer, and the New Testament writers. Must be taken in a,b sequence. Prerequisite: 130 or equivalent. Elective Pass/Fail.
- 202-6 (3, 3) Intermediate Latin.** Reading from authors such as Livy, Caesar, and Cicero. Must be taken in a,b sequence. Prerequisite: 133 or two years of high school Latin or equivalent. Elective Pass/Fail.
- 225-3 Athletics, Sports, and Games in the Ancient World.** The Olympics and other great games of ancient Greece; games and sporting events of ancient Rome; differences between ancient and modern attitudes about "sport" and sports. No knowledge of Greek or Latin is required. Elective Pass/Fail.
- 270-3 Greek Civilization.** An introduction to the life and culture of ancient Greece. Greek contributions to western civilization in literature, art, history, and philosophy. No knowledge of Greek or Latin is required. Elective Pass/Fail.
- 271-3 Roman Civilization.** An introduction to the life and culture of ancient Rome. Rome's function in assimilating, transforming and passing on the Greek literary and intellectual achievements. Rome's own contributions in the political, social, and cultural spheres. No knowledge of Greek or Latin is required. Elective Pass/Fail.
- 310-3 Ancient Art and Archaeology.** Survey of the physical remains of ancient civilizations of the Aegean and Mediterranean areas. Special attention to the artistic and architectural achievements of the Greeks and Romans. Occasionally offered overseas. No knowledge of Greek or Latin is required. Elective Pass/Fail.
- 320-3 Latin Composition.** The object of this course is to understand and appreciate the structure and style of Latin through composition. Prerequisite: 202 or equivalent. Elective Pass/Fail.
- 332-3 Classical Drama.** Reading several tragedies and comedies of the Greeks and Romans both with a view to enjoying them as timeless works of art and with a view to understanding how they grew out of the societies of classical Greece and Rome. No knowledge of Greek or Latin is required. Elective Pass/Fail.
- 380-2 to 4 Greek Prose Authors in Greek.** Reading of Greek prose. Selections from the historians (Herodotus, Thucydides), orators (Lysias, Demosthenes, et al.) philosophers (Plato, Aristotle), or epistles of the New Testament. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 381-3 Homeric Epic in Greek.** Reading and interpretation of selections from the *Iliad* or the *Odyssey*. Homeric grammar and metrics, epic diction, the conventions of oral poetry. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 382-3 Greek Drama in Greek.** Reading and interpretation of selections from the works of the classical Greek dramatists: Aeschylus, Sophocles, Euripides, and Aristophanes. Stage conventions of the Attic theater. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 383-3 Early Greek Lyric in Greek.** Reading and interpretation of poets of the Archaic Age such as Alcaeus, Sappho, and Pindar. Socio-political background, dialects, meters. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 384-3 Roman Philosophy in Latin.** Selections from Cicero, Lucretius, and Seneca the Younger. Recommended for students with double majors in philosophy and classics. Prerequisite: 202 or equivalent. Elective Pass/Fail.

385-3 Medieval Latin. Selected readings from Latin authors of the Middle Ages. Prerequisite: 202 or equivalent. Elective Pass/Fail.

386-3 Roman Historians in Latin. Selections from Caesar, Sallust, Livy, Tacitus, and Suetonius. Recommended for students with double majors in history and classics. Prerequisite: 202 or equivalent. Elective Pass/Fail.

387-3 Vergil in Latin. Selections from Vergil's major works, the *Aeneid*, *Eclogues*, etc. Prerequisite: 202 or equivalent. Elective Pass/Fail.

388-3 Latin as a Research Tool. Intensive study of Latin as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

389-3 Myth, Fable, and Story in Latin. Selections from works such as the *Metamorphoses* of Ovid, the *Fables* of Phaedrus, and *Satyricon* of Petronius. Prerequisite: 202 or equivalent. Elective Pass/Fail.

390-3 Roman Comedy in Latin. Reading and interpretation of selections from play(s) by Plautus and Terence. Prerequisite: 202 or equivalent. Elective Pass/Fail.

391-3 Lyric and Satire in Latin. Reading and interpretation of works by poets such as Catullus, Horace, Juvenal, and Persius. Study of either the lyric or satiric genre. Prerequisite: 202 or equivalent. Elective Pass/Fail.

396-3 Honors in Classics. Readings of classical literature, in Greek or Latin or English translation, for junior or senior majors. The course requires preparation of an honors paper or comparable project, and satisfies one of the requirements for graduation with honors in classics. Prerequisite: 3.75 grade average in classics courses and consent of classics faculty.

405-2 Greek Literature in Translation. (Same as Women's Studies 463.) Reading and analysis of selected classical Greek author(s), genre(s), theme(s), such as the role of woman, the social life of the ancient Greeks, etc. Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required. Elective Pass/Fail.

406-2 Latin Literature in Translation. Reading and analysis of selected Roman author(s), genre(s), theme(s). Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required. Elective Pass/Fail.

415-1 to 9 (1 to 3 per topic) Readings from Greek Authors in Greek. Reading and interpretation of works of Greek literature at an advanced level. Prerequisite: two semesters of 300-level Greek or consent of instructor.

416-1 to 9 (1 to 3 per topic) Readings from Latin Authors in Latin. Reading and interpretation of works of Latin literature at an advanced level. Prerequisite: two semesters of 300-level Latin or consent of instructor.

441-3 Themes in Greek Tragedies and the New Testament. (Same as Religious Studies 441.) Greek tragedies and New Testament passages from the Synoptic Gospels and the Letters of Paul showing similarities and differences in their treatment of such themes as freedom, law, love, and justice. Not for graduate credit. No knowledge of Greek or Latin is required. Prerequisite: 270, 332 or 405 or GSC 330, or 231 and GSC 217 or consent of instructor. Elective Pass/Fail.

488-3 Advanced Latin as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor. With consent of student's own department, and with a grade of *B* or *A*, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: 388 or one year of Latin or equivalent.

496-2 to 8 (2 to 4, 2 to 4) Independent Study in Classics Program. (Same as Anthropology 376, History 396, Philosophy 496, Religious Studies 496.) Normally taken in course of junior and senior years to a total of at least four hours under a professor participating in classics program (anthropology, classics, history, philosophy, or religious studies). At end of advanced level work, student will submit a research paper. Not for graduate credit. No knowledge of Greek or Latin is required. Prerequisite: consent of instructor and classics section head. Elective Pass/Fail.

EAST ASIA (Courses)

300-3 Masterpieces of Oriental Literatures. Lectures and collateral readings of representative oriental literary works in English translation with special attention to literary forms and thought from ancient to contemporary China and Japan. No knowledge of an oriental language required. Elective Pass/Fail.

370-1 to 6 (1 to 3 per topic) Topics in East Asian Cultural Traditions. Selected topics in East Asian cultural traditions. May be repeated to a total of six hours with the consent of the department. No prerequisite. Taught in English. Elective Pass/Fail.

EAST ASIAN CIVILIZATIONS (Minor)**Minor**

Courses in Chinese and Japanese selected in consultation with adviser ... 15¹

¹18 hours is required for State certification.

FRENCH (Major, Minor, Courses)**Bachelor of Arts Degree, College of Liberal Arts**

French courses above 100 level.....	36
200 level: 201a,b (220 recommended; does not usually count toward major or minor)	8
300 level: 320, plus any combination of 300 level courses.....	14
400 level: any combination of 400 level courses.....	14
(At least one literature course must be taken at either the 300 or the 400 level.)	

Bachelor of Science Degree, College of Education, or**Bachelor of Arts Degree, College of Liberal Arts****(with secondary school certification)**

French courses above 100 level.....	36
200 level: 201 a,b (220 recommended; does not usually count toward major or minor)	8 ¹
300 level: 320, plus any combination of 300 level courses.....	14
400 level: Foreign Languages 436, plus any combination of 400 level courses.....	14
(At least one literature course must be taken at either the 300 or the 400 level.)	

Minor

French courses above 100 level.....	18
200 level: 201a,b.....	8 ¹
300 level; 320, plus any combination of 300 level courses.....	10

¹ With the approval of the French section, one semester of 220 may be counted toward the major or minor, in which case the 400-level requirements would be reduced to 12 hours for the major and the 300-level course requirements would be reduced to 8 hours for a minor.

Courses

123-8 (4, 4) Elementary French. The basic skills of listening, speaking, reading, and writing. No previous knowledge of French is required. Must be taken in a,b sequence. Elective Pass/Fail.

124-2 Elementary French Conversation. Conversation skills for beginners. Special emphasis on tourist vocabulary. Prerequisite: concurrent enrollment in 123B or consent of instructor. Mandatory Pass/Fail.

190-5 Review of Elementary French. A review course on first year level for students who have had two or more years of high school French or equivalent. Elective Pass/Fail.

201-8 (4, 4) Intermediate French. Grammar review, translation, oral practice, written composition, and development of reading skills. Reading of material on contemporary France and selections from French literature. Prerequisite: 123, 190, or two years of high school French, or equivalent. Elective Pass/Fail.

220-2 to 4 (2, 2) Intermediate French Conversation. Development of oral skills on the intermediate level. Not usually accepted toward major requirement. Prerequisite: 123b or 190 or equivalent. Elective Pass/Fail.

300-3 Image of Women in French Literature. (Same as Womens Studies 352.) Female

characters as they are represented in French literature through the centuries; the development of a psychological and sociological point of view of women through the examination of women's roles in French literature. Conducted in English. Counted toward major only with consent of adviser. Elective Pass/Fail.

310-4 Development of French Literature from the Middle Ages Through the Eighteenth Century. Major literary movements and authors as exemplified in representative works. Elective Pass/Fail.

311-3 Modern French Literature. The themes, structures, and language of some major works of poets, novelists, and playwrights from the early Romantics through the Existentialists and Robbe-Grillet. Elective Pass/Fail.

320-4 Advanced Language Skills. A review of grammar and syntax with extensive practice in translation and composition. Reading of French texts as basis for discussion and papers. Prerequisite: 201b or equivalent. Elective Pass/Fail.

321-3 Advanced Conversation. Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms emphasized through classroom and language laboratory work. Highly recommended for those students with a major in French. Prerequisite: 201b. Elective Pass/Fail.

330-3 Introduction to Literary Analysis. Examination of the basic elements of literary expression; practice of rudimentary *explications de textes*. Selections for study are taken from important works of French literature and analyses are directed toward developing the students' artistic sensibilities as well as improving their analytical skills. Elective Pass/Fail.

350-2 French Phonetics. Introduction to French phonemics and phonetics involving production of French sounds and English interference. Emphasis on corrective pronunciation. Elective Pass/Fail.

370-3 Modern France. The main philosophical, political, and artistic trends within the nineteenth and twentieth centuries which have contributed to the formation of present day France. Prerequisite: 320 or 321. Elective Pass/Fail.

375-1 to 6 Travel-Study in France. Travel-Study project, planned under supervision of French faculty and carried out in France. Prerequisite: 201b, and consent of faculty. Elective Pass/Fail.

388-3 French as a Research Tool. Intensive study of French as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

390-1 to 6 Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language, or culture. Prerequisite: consent of instructor.

410-3 Individualized Language Study. Treatment of problems concerning grammar, idioms, vocabulary, and other language skills in units tailored to the particular needs of the individual advanced level students enrolled in the course. Exercises in writing, understanding, and speaking will be offered with emphasis placed on the active use of the language which the student may need in present or future activities or careers. Elective Pass/Fail.

411-3 Contrastive Analysis: French and English. Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: 320 and 321 or equivalent. Elective Pass/Fail.

412-3 History of the French Language. A survey of the phonological and morphological changes from Latin through Vulgar Latin and Old French to Modern French; study of an original Old French text, such as the *Chanson de Roland* or a romance of Chretien de Troyes. Knowledge of Latin not required. Elective Pass/Fail.

415-3 Literary Stylistics. A study of the aesthetics and theory of French literary expression. Disciplined stylistic analyses of excerpts from representative works of great French authors. Appreciation of distinctive qualities of each writer's genius. Consideration is given to various stylistic methods. Elective Pass/Fail.

419-3 Romance Philology. (Same as Spanish 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax. Elective Pass/Fail.

420-3 Medieval and Renaissance Literature. Study of the origins of French literature emphasizing the *Chanson de Roland*, *Tristan*, other courtly romances, and the lyric poetry of Villon, culminating with an examination of the development of the humanistic ideas and ideals of the French Renaissance. Elective Pass/Fail.

430-4 Baroque and Classicism. An in-depth examination of artistic and social writings of baroque and classical literary figures such as Corneille, Racine, Moliere, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussion, reports, papers. Elective Pass/Fail.

435-3 Business French. An overview of the French economy through readings in French newspapers and magazines. Grammar review and study of business vocabulary and practices through translation, oral presentations, and commercial correspondence. Prerequisite: 320 or equivalent.

438-3 Business French II. A continuation of 435 but may be taken independently. Transla-

tions of business documents, oral and written presentations of news items on business in France, and commercial correspondence. Detailed study of transportation of goods, conditions, and documents of sales, payments, imports and exports, banking, French companies, insurance, and taxes. Prerequisite: 320 or equivalent.

440-3 Literature of the Enlightenment. Study and discussion of the novel, theater, and philosophic writing of 18th century France as literature and as expressions of the Enlightenment. Major attention given to Montesquieu, Voltaire, Diderot, and Rousseau. Elective Pass/Fail.

450-4 Literary Movements of the 19th Century. Romanticism, Realism, and Naturalism in the novel and theater followed by an examination of the reaction to these movements and of the influence of symbolism. Elective Pass/Fail.

460-4 Studies in Literature of the 20th Century. Examination of the major themes, forms, techniques, and style of novelists from Gide and Proust to Robbe-Grillet and dramatists from Giraudoux to Ionesco and Beckett. Elective Pass/Fail.

470-3 Backgrounds of French Civilization. A study of the events, figures, and movements in France which have influenced its culture and civilization. Elective Pass/Fail.

475-3 to 6 Travel-Study in France. Travel-study project, planned under supervision of French faculty and carried out in France. Amount of credit depending on scope of study. Prerequisite: 320 or equivalent. Elective Pass/Fail.

476-3 to 6 (3, 3) French Civilization Outside of France. Encompasses a number of individual courses, each of which focuses on one of the many areas of the world in which France has played a significant role. Manifestations of French culture and civilization, past and present, are studied and evaluated within the framework of an evolving local and global historic context.

488-3 Advanced French as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 388 or one year of French, or equivalent.

490-1 to 6 Advanced Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language or culture. Prerequisite: 320, 321 and consent of instructor.

501-2 to 6 Studies on a Selected Topic or Author.

510-3 Masterpieces of French Literature.

520-1 to 3 Literature of the Middle Ages.

525-3 Advanced Language Skills.

530-1 to 3 Literature of the Renaissance.

536-1 Teaching French at the College Level.

539-1 to 3 Literature of the 17th Century.

540-1 to 3 Literature of the 18th Century.

550-1 to 3 Literature of the 19th Century.

560-1 to 3 Literature of the 20th Century.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

GERMAN (Major, Minor, Courses)

At least one course in the history of Germany or Central Europe is recommended for all students majoring in German. Credit must be earned in at least one regularly scheduled 400-level course taken on the Southern Illinois University at Carbondale campus.

Bachelor of Arts Degree, College of Liberal Arts

Courses above 100 level	36
200 level: 201a,b (201c recommended)	8-11
300 level: 320-6, plus any combination of 300-level courses	9-12
400 level: Any combination of 400 level courses	12
German electives (300 or 400 level)	4
(At least one literature course must be taken at either the 300 or the 400 level.)	

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

Courses above 100 level	36
200 level: 201a,b (201c recommended)	8-11
300 level: 320-6, plus any combination of 300-level courses	9-12
400 level: Foreign Languages 436, plus any combination of 400 level courses	12
German electives (300 or 400 level)	4
(At least one literature course must be taken at either the 300 or the 400 level.)	

Minor

Courses above 100 level	18
200 level: 201a,b (201c recommended)	8-11
300 level: 320a,b	6
German electives (300 or 400 level including at least one regularly scheduled course)	1-4

Courses

126-8 (4,4) Elementary German. The course emphasizes German culture as it is expressed in the language. It concentrates on the four language skills of understanding, speaking, reading, and writing. No previous knowledge of German required. Must be taken in a,b sequence. Purchase of a workbook is required. Elective Pass/Fail.

127-2 (1, 1) Elementary German Conversation. Conversation skills for beginners making use of modern media. No previous knowledge of German required. Must be taken in a,b sequence or as companion course to 126a or b or with consent of instructor. Elective Pass/Fail.

201-8 (4, 4) Intermediate German. Intensification of the four basic language skills. Study of the culture and everyday living situations in the German-speaking countries. Must be taken in a,b sequence. Prerequisite: 126b or equivalent. Elective Pass/Fail.

201C-6 (3, 3) German Language Workshop. This intensive (15 days), total-immersion (exclusively in German) program combines formal classwork with informal seminars, group activities (folk singing, skits, play readings, films, talent shows, etc.) and individual assignments (daily compositions, diaries). May be repeated once but only three hours will count toward major or minor. Prerequisite: 201b or consent of instructor.

202-2 (1, 1) Intermediate German Conversation. Designed to improve the student's speaking ability through use of modern media. Must be taken in a,b sequence or as companion course to 201a or b or with consent of instructor. Prerequisite: 126b or equivalent. Elective Pass/Fail.

230-3 Nordic Mythology. An introduction to the study of the mythology and culture of the Germanic, and especially the Scandinavian peoples during the time of the Vikings. Emphasis on the Poetic Edda and Prose Edda; also historical and archaeological material. All readings in translation. Elective Pass/Fail.

300-3 German Literature in Translation. Readings of German authors of particular interest to American students, such as Hesse, Kafka, Brecht, and Mann. May count toward German major only with consent of adviser. Elective Pass/Fail.

320-6 (3, 3) Advanced Composition and Conversation. Devoted to increasing the student's command of German. Intensive practice in oral and written composition. Beginning with rather controlled subject matter and progressing to a wider choice of topics. Conducted primarily in German. To be taken in sequence. Required for majors. Prerequisite: 201b or equivalent. Elective Pass/Fail.

321-2 (1, 1) Small Group Conversation. Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms through active participation in small-group informal conversation. Guests are encouraged to attend. Prerequisite: 201b or equivalent. Mandatory Pass/Fail.

330-3 Introduction to German Literature. Survey of masterpieces of German literature including works from various genres and from the major periods of German literary history. Student projects will include demonstration of various techniques of literary criticism. Course is taught primarily in German. Prerequisite: 201b or equivalent. Elective Pass/Fail.

331-3 Faust, Part I and II. Study of both parts of Goethe's *Faust* as a single poetic drama. Close reading of some passages for qualities of literary form and other passages for statements about the human condition in western civilization. Taught in English, readings in bilingual edition. May count toward German major only with consent of adviser. Elective Pass/Fail.

- 370-3 Contemporary Germany.** Study of life in Germany since World War II including the customs and habits, thoughts and beliefs, as well as the broad complex of traditions basic to everyday life. Readings are in English and include literary and journalistic materials as well as written and filmed documentaries. No prerequisite. May count toward German major only with consent of adviser. Offered alternate years only. Elective Pass/Fail.
- 380-3 Modern German Prose.** Introduction to outstanding German prose literature of the 19th and 20th centuries. Attention to historical and social backgrounds. Extensive readings supplemented by lectures and discussions. Conducted in German. Prerequisite: 201b or equivalent. Elective Pass/Fail.
- 388-3 German as a Research Tool.** Intensive study of German as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with the course instructor.
- 390-1 to 3 Directed Language Learning Activity.** Special projects such as translation practicum, German play production, German newsletter, instructional assistance, special presentations, or internship in a business firm in Germany. May count as the fifth semester required for Foreign Languages 475a. Prerequisite: consent of instructor.
- 401-3 Early German Literature.** Survey of medieval culture and literature. Reading of selections and discussion of major works of the Middle Ages in their aesthetic and historical contexts. Conducted in German. Offered in alternate years only. Prerequisite: 330 or 380. Elective Pass/Fail.
- 412-3 Linguistic Structure of Modern German.** The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English. Elective Pass/Fail.
- 413-3 History of the German Language.** Development of German from its Indo-European origin to the present in political and cultural context. The main linguistic aspects dealt with are lexical and semantic changes. Appropriate for students with at least two years of German. Conducted in English. Elective Pass/Fail.
- 416-3 Individualized Language Study.** Designed to improve language skills beyond the level of 320. Treatment of problems concerning grammar, idioms, vocabulary, and other language skills tailored to the particular needs of advanced students. Emphasis is placed on the active use of the language which the student may need in present or future activities or careers. Prerequisite: 320b or equivalent. Elective Pass/Fail.
- 445-3 Age of Goethe.** Intensive and extensive study of the authors, works, and movements of the period spanned by Goethe's life (1749-1832). Lectures, reports. Conducted in German. Prerequisite: 330 or consent of instructor. Elective Pass/Fail.
- 460-3 East and West of the Wall.** Literature of the two Germanies. Course will trace the beginnings and the establishment of the two German literatures after World War II. Conducted in German. Prerequisite: 330 or 380. Elective Pass/Fail.
- 465-3 German Theater Today.** Plays performed in German-speaking countries at the present. The role of the theater in German culture. Conducted in German. Prerequisite: 330 or equivalent. Elective Pass/Fail.
- 485-2 German Lyric Poetry.** Development of German lyric poetry from Klopstock and Burger to the present. Conducted in German. Prerequisite: 330 or equivalent. Elective Pass/Fail.
- 488-3 Advanced German as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 388 or one year of German or equivalent.
- 490-1 to 6 (1 to 3, 1 to 3) Independent Study in German.** Project-study under supervision of German faculty. Amount of credit depends on scope of study. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: senior or graduate standing and approval of supervising instructor.
- 493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language.** Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Primarily for undergraduates. Prerequisite: consent of instructor. Elective Pass/Fail.
- 501-2 to 4 (2, 2) Seminar in Literature, Culture, or Folklore.**
- 502-2 to 4 (2, 2) Seminar in Germanic Linguistics.**
- 510-3 Middle High German.**
- 512-2 Historical Germanic Dialects.**
- 536-1 Teaching German at the College Level.**
- 560-3 German Literature at the Turn of the 20th Century.**
- 561-3 Modern German Novel.**
- 586-3 Das Komische.**

590-3 to 9 (3 per topic) Independent Study on Special Topics in Literature and Language.
 599-1 to 6 Thesis.
 601-1 to 12 per semester Continuing Research.

GREEK (Minor, Courses)

(SEE CLASSICS)

JAPANESE (Minor, Courses)

Minor

Japanese courses above 100 level	18
200 level: 201a,b	10
300 level.	8

Courses

131-8 (4, 4) **Elementary Japanese.** Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Japanese is required. Must be taken in a,b sequence. Elective Pass/Fail.

201-10 (5, 5) **Intermediate Japanese.** Development of listening, speaking, reading, and writing skills on the intermediate level, with special attention to cultural readings. Must be taken in a,b sequence. Prerequisite: 131b. Elective Pass/Fail.

305-2 to 4 (2, 2) **Individualized Language Study.** Designed to improve language skill beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent. Elective Pass/Fail.

306-6 (3, 3) **Readings in Japanese.** Designed to give students with some Japanese background proficiency in reading modern Japanese. Special attention to cultural readings. Must be taken in a, b sequence. Prerequisite: 201b or equivalent. Elective Pass/Fail.

410-3 **The Linguistic Structure of Japanese.** (Same as Linguistics 412.) Phonology and syntax of the Standard Japanese. Special emphasis on the contrastive analysis between Japanese and English. Typological similarities and lexical borrowings between Chinese and Japanese. Prerequisite: one year of Japanese or introduction to linguistics. Elective Pass/Fail.

LATIN (Minor, Courses)

(SEE CLASSICS)

PORTUGUESE (Courses)

175-5 **First-Year Portuguese.** First year Portuguese in one semester. The basic skills of listening, speaking, reading, and writing. Not open to native Portuguese speakers without permission of Spanish section. Elective Pass/Fail.

RUSSIAN (Major, Minor, Courses)

Bachelor of Arts Degree, College of Liberal Arts

Russian courses above 100 level	36
200 level: 201a,b	8
300 level: Any combination of 300 level courses	12
400 level: Any combination of 400 level courses including at least one literature course	12
Russian electives (300 or 400 level)	4

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

Russian courses above 100 level	36
200 level: 201a,b	8
300 level: Any combination of 300 level courses	12

400 level: Any combination of 400 level courses including at least one literature course and Foreign Languages 436	12
Russian electives (300 or 400 level)	4
Minor	
Russian courses above 100 level	18
200 level: 201a,b	8
300 level: Any combination of 300 or some 400 level courses	10

Courses

- 136-8 (4, 4) **Elementary Russian.** Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Russian required. Must be taken in a,b sequence. Elective Pass/Fail.
- 201-8 (4, 4) **Intermediate Russian.** Continuation of the language structure with practice in oral and written Russian. Must be taken in a,b sequence. Prerequisite: 136 or two years of high school Russian or equivalent. Elective Pass/Fail.
- 220-4 (2, 2) **Intermediate Russian Conversation.** Practice of oral skills on the intermediate level. May be taken as companion course to 201a, b or with consent of instructor. Prerequisite: 136b or equivalent. Elective Pass/Fail.
- 305-4 **Advanced Conversation and Composition.** Improvement of self-expression, oral and written comprehension, free composition and conversation; readings based on the history of Russia, as well as readings of magazine and newspaper articles. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 306-3 **Intermediate Readings in Russian.** Designed to improve skills in reading selections from Russian prose. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 320-3 **Advanced Language Skills.** A review of fine points of grammar and polishing of student's syntax. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 330-4 **Introduction to Russian Literature.** Reading and analysis of the texts selected from Russian literature.
- 350-3 **Russian Phonetics.** Analysis of the sounds of Russian and their manner of production; intonation and stress; levels of speech, oral practice. Prerequisite: 201b. Elective Pass/Fail.
- 375-3 to 6 **Travel Study in USSR.** Supervised travel-study program in the USSR. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 388-3 **Russian as a Research Tool.** Intensive study of Russian as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.
- 411-3 **Russian Stylistics.** Writing styles in Russian and its application to the development of skill in written expression. Elective Pass/Fail.
- 415-3 **Russian Linguistic Structure.** Structural analysis of present-day Russian with special attention to morphology and syntax. Elective Pass/Fail.
- 430-4 **Business Russian.** A study of the style of commercial language and its application to the development of skill in business correspondence, such as: inquiries, offers, orders, contracts, agreements, as well as documents concerning transport, insurance, and customs. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 465-3 **Soviet Russian Literature.** Major fiction writers and literary trends since 1917. Lectures, readings, and reports. Elective Pass/Fail.
- 470-3 **Soviet Civilization.** Soviet culture and civilization is studied primarily through literary works, journalistic materials, and excerpts from non-literary works as general background reading. Lectures are illustrated with maps, slides, films and art works. Taught in English. Readings are in English and in bilingual edition. No prerequisite: May count toward Russian major with consent of graduate adviser. Elective Pass/Fail.
- 475-2 to 3 **Travel-Study in USSR.** Specialized course comprising part of the travel-study program in the Union of Soviet Socialistic Republics. Prerequisite: 201 or equivalent. Elective Pass/Fail.
- 480-4 **Russian Realism.** Authors in 19th century Russian literature. Special attention to stylistic devices. Lectures, readings, and individual class reports. Elective Pass/Fail.
- 485-3 **Russian Poetry.** A study of literary trends and representative works of Russian poets. Elective Pass/Fail.
- 488-3 **Advanced Russian as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's

department, and with a grade of *B* or *A*, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: 388 or one year of Russian or equivalent.

490-1 to 3 Independent Study. Directed independent study in a selected area. Prerequisite: consent of the Russian section head. Elective Pass/Fail.

501-2 Seminar on a Selected Russian Author.

502-2 Seminar in Contemporary Russian Literature.

514-3 History of the Russian Language.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

SPANISH (Major, Minor, Courses)

Bachelor of Arts Degree, College of Liberal Arts

Spanish courses above 100 level.	36
200 level: 201a,b or 275.	5-6
300 level: 306 and 320, plus any combination of 300 level courses which includes a literature course	12
400 level: 415, plus any combination of 400 level courses.	12
Spanish electives (only one semester of 220 may be counted toward the major).	6-7

Bachelor of Arts Degree, College of Liberal Arts (with a minor in secretarial and office specialties, for bilingual secretaries)

Spanish courses above 100 level.	36
200 level: 201a,b or 275.	5-6
300 level: 306 and 320, plus any combination of 300 level courses	12
400 level: 412, plus any combination of 400 level courses.	12
Spanish electives	6-7

See secretarial and office specialties for a description of minor requirements.

Bachelor of Science Degree, College of Education or

Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

Spanish courses above 100 level.	36
200 level: 201 a,b or 275.	5-6
300 level: 306 and 320, plus any combination of 300 level courses which includes a literature course.	12
400 level: 415, Foreign Languages 436, plus any combination of 400 level courses	12
Spanish electives (only one semester of 220 may be counted toward the major).	6-7

Minor

Spanish courses above 100 level.	18
200 level: 201a,b or 275.	5-6
300 level: 306 and 320.	7
Spanish electives (only one semester of 220 may be counted toward the minor).	5-6

Courses

140-8 (4, 4) First-Year Spanish. The basic skills of listening, speaking, reading, and writing. No previous knowledge of Spanish required. Must be taken in a,b sequence. Not open to native speakers of Spanish without permission of the Spanish section. Elective Pass/Fail.

141-2 Elementary Spanish Conversation. Conversation skills for beginners. Emphasis on everyday situations. Cannot be taken to satisfy language requirement. Not open to native Spanish speakers. Is not a companion course for 140a,b or 175. Prerequisite: 140a or equivalent. Mandatory Pass/Fail.

157-8 (4, 4) Individualized Instruction. Teacher-assisted, mastery-based, self-paced instruction in Spanish. Basic skills of listening, speaking, reading, and writing are learned. Parallel in scope and credit to regular basic skills courses. Not open to native speakers. Elective Pass/Fail.

175-5 First-Year Spanish Short Course. First-year Spanish covered in one semester. The basic skills of listening, speaking, reading, and writing. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: one year of high-school Spanish or equivalent or special permission of instructor. Elective Pass/Fail.

201-6 (3, 3) Second-Year Spanish. Continuation of grammar and composition. Exercises in language laboratory. Selected readings, with special attention to the role of Hispanic culture in world civilization. Must be taken in a,b sequence. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 140b or 175 or two years of high-school Spanish or equivalent. Elective Pass/Fail.

220-4 (2, 2) Spanish Conversation. Practice in spoken Spanish. Prepared and impromptu group discussions on general topics and everyday situations. Frequent short talks by students. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 140b or 175 or two years of high-school Spanish. Elective Pass/Fail.

273-2 Study in Spain or Latin America. Course taught as part of the summer study abroad program. Prerequisite: one year of college Spanish, or the equivalent. Elective Pass/Fail.

275-5 Second-Year Spanish Short Course. A one-semester course which can be taken in lieu of the Spanish 201a,b sequence. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 175 or 140a,b or equivalent. Elective Pass/Fail.

305-2 to 4 (2, 2) Advanced Conversation. Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms in Spanish. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 201b or 275 and 220. Elective Pass/Fail.

306-3 Intermediate Readings in Spanish. Intermediate readings in Spanish. Designed to improve reading skills in Spanish. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 201b or 275 or equivalent. Elective Pass/Fail.

310-3 Spanish Literature 1700-1900. The literature of Spain in the periods of Neoclassicism, Romanticism, and Realism. Prerequisite: 306. Elective Pass/Fail.

315-3 Spanish American Literature. Literature in Spanish America during the 19th and 20th centuries. Prerequisite: 306. Elective Pass/Fail.

320-4 Third-Year Grammar and Composition. Extensive practice in translation and composition; special attention to grammar problems, idiomatic expressions, and syntactical features. Prerequisite: 201b, 275, or equivalent. Elective Pass/Fail.

370-3 Spanish Culture and Civilization. The cultural patterns and heritage of the Spanish people from earliest times to the present. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 201b or 275 or equivalent. Elective Pass/Fail.

371-3 Spanish-American Culture and Civilization. A survey of the cultural heritage of the Spanish-American peoples. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 201b, 275, or equivalent. Elective Pass/Fail.

388-3 Spanish as a Research Tool. Intensive study of Spanish as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

390-1 to 6 Independent Study in Spanish. Individual exploration of some question, author, or theme of significance within the field of Spanish literature, language, or culture. Prerequisite: consent of instructor.

412-3 Advanced Grammar and Composition. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. Prerequisite: 320. Elective Pass/Fail.

415-3 The Linguistic Structure of Spanish. Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching. Elective Pass/Fail.

417-3 History of the Spanish Language. Survey of internal and external history, from Vulgar Latin to Modern Spanish. Elective Pass/Fail.

419-3 Romance Philology. (Same as French 419.) Historical and comparative study of the major Romance languages: their phonology, morphology and syntax. Elective Pass/Fail.

425-3 Spanish Literature Before 1700. The literature of Spain from its beginnings in the Middle Ages through the Golden Age. Elective Pass/Fail.

430-3 The Golden Age: Drama. Plays of Lope de Vega, Calderon, Tirso de Molina, and others. Elective Pass/Fail.

431-3 Cervantes. *Don Quijote*. Elective Pass/Fail.

434-3 Colonial Literature in Spanish America. Study of the literature of Spanish America before 1825. Elective Pass/Fail.

435-3 Applied Written Spanish. Business Spanish: discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and

documents dealing with trade, transportation, payment, banking, and advertising. Prerequisite: 320. Elective Pass/Fail.

460-3 Spanish Literature of the 20th Century. The main currents and outstanding works in the literature of Spain since 1900. Elective Pass/Fail.

463-3 Chicano Literature. An introduction to the literature written in the United States by Chicanos and other Hispanics.

485-3 The Spanish American Short Story. Survey of the genre in Spanish America. Elective Pass/Fail.

486-3 Spanish American Drama. A survey of the development of the genre from the earliest times to the present. Elective Pass/Fail.

487-3 The Spanish American Novel. Survey of the genre in Spanish America. Elective Pass/Fail.

488-3 Advanced Spanish as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of *B* or *A*, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: 388 or one year of Spanish or equivalent.

490-1 to 3 Advanced Independent Study. Individual exploration of some topic in Hispanic literature, language, or culture. Prior consent of instructor required.

502-3 to 6 (3, 3) Seminar in Hispanic Linguistics.

503-3 to 6 (3, 3) Seminar in Peninsular Spanish Literature.

504-3 to 6 (3, 3) Seminar in Spanish-American Literature.

521-3 Medieval Spanish Literature.

530-2 to 4 (2, 2) Spanish Literature of the Renaissance and Golden Age.

535-2 to 4 (2, 2) Spanish American Literature before 1900.

540-2 to 4 (2, 2) Spanish Literature of the 18th and 19th Centuries.

560-2 to 4 (2, 2) Spanish Literature of the 20th Century.

565-3 to 6 (3, 3) Spanish American Literature of the 20th Century.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Forestry (Department, Major, Courses)

Four specializations are offered within the major in forestry. General studies requirements and a core of professional courses are similar for most specializations. Courses specifically required in the various specializations may not be taken for pass/fail credit by students majoring in the Department of Forestry. A grade of *C* or better is required for all forestry courses specifically required by the specialization. The forest resources management and forestry environmental assessment specializations are accredited by the Society of American Foresters.

Available to the Department of Forestry for teaching and research in addition to resources present on campus are the following: the Crab Orchard National Wildlife Refuge; the Shawnee National Forest; a number of state parks and state forests; conservation areas; and the Kaskaskia Experimental Forest. Collectively, these comprise more than a million acres of forest land, all in the vicinity of the University. Also accessible for forest products utilization teaching and research is a wood products plant located near the campus. Forest scientists of the U.S. Forest Service are affiliated with the Department of Forestry, and are authorized to participate in the educational activities of the department.

Before forestry majors will be admitted to any forestry courses at the 300 level or higher, they must have completed all freshmen and sophomore courses required for the specialization with either: 1) a grade of *C* or higher for each course, 2) an overall grade point average of 2.50 or higher for all courses. Students who do not meet these requirements within the first 70 semester hours of their baccalaureate work will be placed on warning and given one semester in which to comply or be terminated from the forestry program. Transfer students admitted to the forestry program with more than 45 semester hours of baccalaureate work completed elsewhere must comply within 35 semester hours following admission to the forestry program or be placed on one-semester warning status.

Bachelor of Science Degree, School of Agriculture

FORESTRY MAJOR — FORESTRY ENVIRONMENTAL ASSESSMENT SPECIALIZATION

This specialization provides training in the assessment of the environmental impact of forest resources development. Students do not attend the summer camp field studies but receive special field training in the preparation of environmental impact statements.

General Studies Requirements..... 45

Requirements for Major in Forestry with Forestry Environmental
Assessment Specialization 85

Forestry Core 200, 201, 202a, 202b, 300, 310, 311,
315, 331, 409, 410, 411, 314 or Botany 357..... 35

Botany 200, 201; Zoology 118; Chemistry 140a, b;
Biology 307 (12)¹ + 7

Agribusiness Economics 204; 3 hours in GSB sociology or
substitute; GSB 212..... (9)¹ + 1

GSD 101, 118, 153; Mathematics 140, 283 (11)¹ + 4

Botany 320 and 443 or 444 8

Forestry 320, 405, 416, 430, 452, 452L, 453, 494a..... 21

Plant and Soil Science 240 4

Restricted Electives 5

Total..... 130

¹Hours included in total for General Studies requirements.

FORESTRY MAJOR — OUTDOOR RECREATION RESOURCE MANAGEMENT SPECIALIZATION

The program in outdoor recreation resource management provides interdisciplinary training for management of the nation's outdoor recreation heritage. The courses offered are among those recommended by the National Recreation and Park Association and the Society of American Foresters. The outdoor recreation resource management student travels through selected sections of the United States on a park and recreation field studies session of outdoor recreation and park facilities. The summer camp requires the student pay transportation and living expenses. Other courses in this program may also require additional fees.

General Studies Requirements..... 45

Requirements for Major in Forestry with Outdoor Recreation
Resource Management Specialization 85

Forestry Core 200, 201, 202a, 202b, 300, 310, 311,
315, 331, 409, 410, 411, 314 or Botany 357..... 35

Biology 307; Botany 200, 201, Chemistry 140a, b (9)¹ + 6

Agribusiness Economics 204, Agricultural Education
and Mechanization 371 (3)¹ + 2

GSA 211, GSC 205, GSD 101, 118, 153,
Mathematics 140, 283..... (17)¹ + 4

Plant and Soil Science 240, 328a, b, Geography 310..... 11

Forestry 422C Park and Recreation Field Studies Camp 4

Forestry 320, 420, 421, 423, 470 13

Select at least 6 hours from Forestry 405, 416, 430,
Zoology 468a, b 6-7

Restricted Electives..... 3-4²

Total..... 130

¹ Hours included in total for General Studies requirements.
² To be elected from forest sciences, business or administration, law or law enforcement, or recreation.

FORESTRY MAJOR — FOREST SCIENCE SPECIALIZATION

The forest science specialization is available for students desiring to enter a graduate program and concentrate in a given area of knowledge. The program provides maximum flexibility to enable students and their adviser to construct individual programs within a specific field of study. The program of study may be selected from any subject area within the competence of the Department of Forestry faculty. Students must have a grade point average of 3.00 or higher in university or college level work to be eligible to enroll and remain in this specialization. New students may enroll upon recommendation of an adviser in the Department of Forestry. The student and an advisory committee comprised of at least two departmental faculty members will develop a program of study designed to meet the needs and objectives for the area of specialty selected. If the student wishes to qualify for employment registers as a forester or for other specific natural resources positions, the student and committee advisers must design a program that is carefully structured.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Forestry with Forest Science Specialization</i> ...	75
Forestry Core 200, 201, 202a, 202b, 300, 310, 311, 315, 331, 409, 410, 411, 314 or Botany 357	35
Forestry and related electives	40 ¹
<i>Total</i>	120

¹The student and the academic advisers will select courses designed to meet the needs and objectives for the area of specialty selected.

FORESTRY MAJOR — FOREST RESOURCES MANAGEMENT SPECIALIZATION

The program in forest resources management includes instruction leading to careers in forest management and production, multiple-use resource management, and the forest products industries. The specialization includes areas of study recommended by the Society of American Foresters. Emphasis is upon integrated resource management of natural and renewable resources, coordinating forest utilization methods and conservation practices, and preserving our wildlands heritage. A five-week summer camp is required after the junior year to give the student practical field experience. Field study costs per student for off-campus living expenses and transportation are approximately \$150 per student and must be borne by student. Other costs for equipment and supplies which are required for field study and certain other courses are specified in course descriptions.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Forestry with Forest Resources - Management Specialization</i>	85
Forestry Core 200, 201, 202a, 202b, 300, 310, 311, 315, 331, 409, 410, 411, 314 or Botany 357	35
Biology 307; Botany 200, 201; Chemistry 140a, b; Zoology 118	(12) ¹ + 7
Agricultural Economics 204, Agricultural Education and Mechanization 371, 374	(3) ¹ + 4
GSD 101, 118, 153; Mathematics 140, 283	(11) ¹ + 4
Five-week early summer field studies: Forestry 300C, 310C, 314C, 320C	6
Forestry 412, 416	5
Plant and Soil Science 240	4

Two courses selected from Forestry 320, 350, 405, 460	4
Two courses selected from Forestry 313, 402, 420, 430	6
Restricted electives	10 ²
Total	130

¹Hours included in total for General Studies requirements.
²At least one course to be selected from each of the following areas: forest sciences, business or business administration, and physical science or computer science.

Courses

- 200-1 Introduction to Forestry.** Acquaints students with the broad field of multiple-use forestry. Special emphasis is given to forestry as a profession. Required field trips cost \$15. Elective Pass/Fail.
- 201-3 Ecology of North American Forests.** An introduction to forest ecology concepts, site factors and forests of North America. Emphasis is placed on the silvics of tree species and the impact of soil, climate, and topography on forest vegetation. Forest site-community relationships of selected major North American forest ecosystems will be studied. Saturday field trip may be required at a cost not to exceed \$10. Prerequisite: Botany 200 and 201, Plant and Soil Science 240, Biology 307, or consent of instructor.
- 202-2 (1, 1) Tree Identification Laboratory.** A two-semester course that teaches field and laboratory identification of trees and shrubs using leaf, twig, bark, and fruit characteristics. Saturday field trips may be required. Extra costs total \$20 unless paid in 201. Must be taken in a,b sequence, unless otherwise arranged with consent of instructor. Prerequisite: Botany 200 and 201.
- 240-4 Soil Science.** (See Plant and Soil Science 240.)
- 300-3 Forest Resources Measurements.** Introductory measurement, statistical and data processing concepts; volume, growth and yield of forest products; methods of sampling forest resources. Field trips. Prerequisite: Mathematics 140 and 283.
- 300C-1 Forest Resources Measurements Field Studies.** Methods of determining volume and quality of forest products, forest resource inventory procedures, growth and productivity studies. Field trips. Prerequisite: 300.
- 301-3 Social Influences on Forestry.** Study of, and practice in, methods used for effecting social change in forestry and allied natural resource fields. Case studies, readings, and actual practice in techniques are used to develop an understanding of historical and current trends. Prerequisite: a course in sociology and a course in political science.
- 310-4 Practices of Silviculture.** Detailed study of classical concepts and recently developed techniques utilized in silvicultural treatment of forests. Major emphasis to be placed upon establishment, thinning, timber stand improvement, and regeneration of forest. Prerequisite: 331.
- 310C-2 Silviculture Field Studies.** Field experience for the student in the various facets of silviculture including planting, thinning, harvesting, timber stand improvement and site-growth relationships. Offered only at summer camp. Costs for students are given in forestry description. Prerequisite: 331 and 310.
- 311-3 Resources Photogrammetry.** The science and art of obtaining reliable measurement by means of photographs, detection of disease, insects and fire invasion by remote sensors; and delineation of resources boundaries through interpretation.
- 313-3 Harvesting Forest Crops.** Emphasis is given to lumber sale layouts, sale contracts, and harvest engineering methods. Consideration is given to the environmental impacts of harvesting. Additional cost: \$25. Prerequisite: 310 and 312.
- 314-3 Insect, Abiotic, and Other Stresses Within the Forest.** The impact, recognition, and control of destructive forces within the forest environment. Emphasis placed upon stresses due to climatic factors, macro-parasitic plants, chemical injury, pollution, animal damage, and forest insect pests. Prerequisite: 331, Botany 200, and Zoology 118 or consent of instructor.
- 314C-2 Forest Protection Field Studies.** The prevention and suppression of forest fires, the recognition and control of insect and disease organisms and other destructive agents in the forest. Summer camp only. Cost per student given in the forestry description. Requires additional expenses of approximately \$20 per student. Prerequisite: 331 and two of the following: 314, 315, Botany 357.
- 315-3 Fire in Wildland Management.** Fire as a phenomenon in wildland management. Topics are fire prevention, detection, suppression, behavior, effects, use, and economics. Major emphasis is on fire control and fire ecology. Prerequisite: 331.
- 320-2 Recreation in Wildlands Environments.** Trends in recreational use of wildland environments and emphasis on state and federal parks and forests. Introductory concepts in recreation management, planning, and interpretation.
- 320C-1 Forest and Wildlands Recreation Field Studies.** Recreation of forest and adjacent lands with emphasis on parks and national forests. Administration; interpretation; trends in

use and development. Offered only at spring camp (costs per student are given in the forestry description). Requires supplemental purchases of approximately \$2 per student.

331-3 Forest Ecosystems. An analysis and integration of tree growth and of forest structure, material and energy flow, and classification in relation to climatic and edaphic factors to provide an ecological basis for management of forest ecosystems. Prerequisite: 201, 202, 240, Biology 307.

341-3 Forestry Practices. The fundamentals of integrated resource management of timberlands. Management systems, tree and stand measurements. Planting and harvesting methods, multiple-use aspects of forest lands. Field trips. Emphasis on small forest ownerships. Not for graduation credit in forest resource's management option.

350-2 Woods as a Raw Material. Structure, identification, and properties of wood. Important species and the significance of wood use to the environment.

381-1 Forestry Seminar. Discussion of problems in or related to forestry. Prerequisite: junior standing, minimum 2.5 GPA, and consent of instructor.

391-1 to 4 Special Problems in Forest Resources. Independent research sufficiently important to require three hours per week of productive work for each hour of credit.

401-3 Fundamentals of Environmental Education. (See Agriculture 401.)

402-3 Wildland Hydrology. Fundamentals of hydrology as related to forest and wildland water resources will be emphasized. Considerations will include the hydrologic cycle with emphasis on soil and groundwater regimes, evapotranspiration, surface and subsurface runoff, and the quantity and timing of water yield. Prerequisite: Mathematics 140.

405-2 Forest Management for Wildlife. Interrelations between forest practices and wildlife populations. Emphasis is on habitat requirements of different wildlife species and ways to manipulate the forest to improve wildlife habitats. Prerequisite: forestry major, or consent of instructor.

408-4 Introduction to Remote Sensing. The course is an introduction to the theoretical and practical considerations of remote sensing for an interdisciplinary audience. Coverage will stress background information about the electromagnetic spectrum, reflectance characteristics of various objects, sensors, filters, platforms and energy flow between object and sensor. Prerequisite: advanced standing or graduate status.

409-4 Forest Resources Decision-Making. Examines management planning decision-making for multiple-use forests particularly in the public sector. Reviews concepts useful for analyzing flow-resource problems, emphasizing systems approaches, introduces use of modern quantitative methods to evaluate resource use alternatives. Case studies. Prerequisite: 411, Mathematics 140.

410-3 Forest Resources Administration and Policy. Nature of administrative organizations and influences on behavior of organization members. Society influences causing changes in forestry related organizations. Policy formation and implementation, including roles of special interest groups.

411-3 Forest Resources Economics. Introduction to forest economics: Application of micro- and macro-economic principles to forest timber and non-timber production; capital theory; benefit-cost analysis; and economics of conservation. Prerequisite: Agriculture Industries 204 and Mathematics 140.

412-2 Tree Improvement. Basic theories and techniques of obtaining genetically superior trees for forest regeneration. Prerequisite: senior standing.

414-3 Information Management. The collection of physical, biological, and social variables in the field of forestry through sampling survey. The procedures of data manipulation and calculation and the presentation of graphs and tables.

416-3 Forest Resource Management. The application of business procedures and technical forestry principles to manage forest properties. Emphasis on integrated resource management for tangible and intangible benefits. Field trips and supplemental purchases approximately \$25 per student. Prerequisite: summer camp or consent of instructor.

417-2 Forest Land-Use Planning. Principles of location theory as a basis for determining land use; supply of forest land; population pressure and demand; conservation principles; determination of forest land values; institutional factors influencing forest land-use; forest taxation; special taxes, and capital gains. Taught in alternate years. Prerequisite: 411 or consent of instructor.

418-2 Marketing of Forest Products. The role of marketing in the forest industries; review of economic principles; product policy, planning the product line, pricing, marketing channels, marketing programs, marketing organization, and marketing research as influences on the marketing of lumber, wood products, pulp, and paper. Taught in alternate years. Prerequisite: 411 or consent of instructor.

420-3 Park and Wildlands Management. The management of state and federal parks and recreation areas. A systems approach toward management and decision-making will be emphasized. Requires supplemental purchases of approximately \$5 per student. Prerequisite: 320C or 422T.

421-3 Recreation Land-Use Planning. Principles and methods for land-use planning of park and recreation environments with emphasis on large regional parks. Focus on planning

- process and types of information to gather and organize. Application in group field projects. Prerequisite: 320, 420, or consent of instructor.
- 422C-4 Park and Wildlands Management Camp.** A study of park conditions, visitors, and management practices at selected county, state, and federal park systems in the United States, including the federal wilderness preservation system. Course requires a field trip and supplemental purchases. Prerequisite: 320 and 320C and consent of instructor.
- 423-3 Environmental Interpretation.** (See Agriculture 423.)
- 429-4 Wildland Watershed Analyses.** A lecture/laboratory course designed to provide a practical knowledge of the equipment, procedures, and tests used in determining the quality and quantity of waters flowing within and out of wildlands. Prerequisite: Chemistry 140a.
- 430-3 Wildland Watershed Management.** Emphasis is placed on the principles, technical problems, procedures, alternatives, and consequences encountered in managing wildland watersheds for the production of quality water in harmony with other uses. Prerequisite: 331, 402.
- 431-3 Regional Silviculture.** Designed to evaluate the various silvicultural practices as they are commonly employed in various regions of the United States. Offered alternate years. Prerequisite: 310C.
- 451-2 Natural Resources Inventory.** Theory and practical problems in biometrics to obtain estimates of natural resource populations. Use of computers and other advanced techniques. Case studies of inventory procedures. Field trip cost — maximum \$20. Prerequisite: 300 or consent of instructor.
- 452-2 Forest Soils.** Characterization and fundamental concepts of forest soils and their relationship to forest communities and forest management practices. Emphasis is on the origin of forest soil material, soil forming processes, and the chemical, physical, and biological properties of soils as related to forests and forest management. Prerequisite: 240 or Plant and Soil Science 240 and concurrent enrollment in Forestry 452L.
- 452L-2 Forest Soils Laboratory.** Companion laboratory for 452. Emphasis is on methods to characterize and evaluate the chemical, physical, and biological properties of forest soils. Prerequisite: 240 or Plant and Soil Science 240 and concurrent registration in Forestry 452.
- 453-2 Environmental Impact Assessment in Forestry.** Methods of assessing the environmental impact of land-use systems on forest resources and assessing the impact of forest management systems on environmental quality are presented. Case studies culminating in the preparation of environmental impact statements are emphasized. Field trips cost, \$20. Prerequisite: senior standing in a natural resource major.
- 454-2 to 8 Forest Ecology Field Studies.** A study of forest communities, soils, and site conditions in one of the following ecosystems: (a) Boreal; (b) lake states; (c) Southern Appalachians; (d) Southern pine. Course requires a field trip of about 10 days. Each trip is two semester credits; a maximum of 6 credits may be applied toward graduate credit. Estimated cost \$125 per trip. Prerequisite: senior standing in natural resources or biological sciences, courses in tree identification, forest ecology, and soils, and consent of instructor.
- 460-2 Forest Industries.** Analysis of raw material requirements, the processes and the products of forest industries. The environmental impact of each forest industry will also be discussed.
- 470-2 Wilderness Management, Policy, and Ethics.** Study of current management philosophy and practice in America's wilderness. Analysis of current wilderness policy and its historical evolution. Discussion of the evolution of the wilderness idea and the individuals that have influenced it. Weekend field trip required. Prerequisite: 320 or consent of instructor.
- 492-1 to 4 Special Studies for Honor Students.** Research and individual problems in forestry. Prerequisite: consent of the department chairperson and a 3.0 minimum grade point average.
- 494-1 to 6 Practicum.** Supervised practicum experience in a professional setting. Emphasis on administration, supervision, teaching and program leadership in community, school, park, forest, institution and public or private agencies. Students should enroll according to their curriculum specialization: (a) Forest environmental assessment, (b) Outdoor recreation resource management, (c) Forest resources management. Prerequisite: consent of instructor.
- 500-2 Principles of Research.**
- 501-1 Graduate Seminar.**
- 511-2 Advanced Forest Resources Economics.**
- 512-2 Tree Selection and Breeding.**
- 516-2 Advanced Forest Management.**
- 520-2 Advanced Park Planning.**
- 521-2 Recreation Behavior in Wildlands Environments.**
- 530-2 Forest Site Evaluation.**
- 531-2 Biological Productivity of Forests.**
- 588-1 to 6 International Graduate Studies.**
- 590-1 to 4 Readings in Forest Resources.**
- 593-1 to 4 Individual Research.**
- 599-1 to 6 Thesis.**
- 601-1 to 12 per semester Continuing Research.**

Geography (Department, Major, Courses)

The Department of Geography offers three programs to undergraduate students. The Bachelor of Arts and the Bachelor of Science are offered through the College of Liberal Arts and the Bachelor of Science degree is offered through the College of Education. A minor is required of all geography majors and should be arranged in consultation with the department. Junior college transfer students interested in geography are encouraged to visit the department to determine possibilities for waivers, proficiencies, and transfer credit substitution.

Honors in geography is a special three semester program available to majors with an overall grade point average of 3.00 or better. Interested students should apply during the junior year to obtain departmental consent prior to initiation of an honors program.

The core of the major program involves 300- and 400-level courses. Geography 300, the first course in a major's program, gives a basic foundation in the topics and fields of research within geography. It acquaints students with the viewpoints and methods of geography, the concepts and theories in geography, and maps and quantitative methods, the basic techniques and tools used by the geographer. In addition to Geography 300, at least three 300-level and three 400-level courses are required. Offered are 400-level courses in resource management and physical environment systems, urban and regional planning, and geographic techniques.

The minor requirement for geography majors may be formed in either of two ways. It may be a regular minor from another department or it may be an interdisciplinary selection of courses created in consultation with the department.

Students minoring in geography must take Geography 300 or GSB 103, three 300-level courses and one 400-level course. Geography 300 has been approved as a substitute for GSB 103 for the General Studies requirement. Social studies students with a 9-hour concentration must take Geography 300 or GSB 103 and complete their concentration with electives from geography.

Bachelor of Arts or Bachelor of Science Degree, College of Liberal Arts

GEOGRAPHY MAJOR — GENERAL

These courses provide the base for those seeking a broad understanding of the field of geography and who have interests in preparing for graduate study or in applying geography in teaching, industry or government.

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements (See page 72.)</i>	(4) + 8-14
<i>Requirements for Major in Geography</i>	30-32
Geography 300 or GSB 103	3
Any three: Geography 302, 304, 306, 310, or one regional course	8-9
Any 400 level courses	11-12
Electives in Geography selected with the approval of the department	6-8
<i>Minor (or selection of courses complementary to major)</i>	15
<i>Electives</i>	14-22
<i>Total</i>	120

GEOGRAPHY MAJOR — ENVIRONMENTAL STUDIES AND PLANNING SPECIALIZATION

These courses are for those interested in entering the planning field or in preparing for graduate study in urban or regional planning or some aspect of environmental analysis.

General Studies Requirements..... 45

Supplementary College Requirements (See page 72.)..... (4) + 8-14

*Requirements for Geography Major with Environmental Studies
and Planning Specialization* 30

 Geography 300, 302, 310, 410, 421, 424, 425, 432, and 470a or 471

Minor Equivalent (15 hours)..... 15

 Many courses offered in other departments support the geography
 major with an emphasis in environmental planning. For a complete
 list see the geography undergraduate program director or the College
 of Liberal Arts Advisement Center.

Electives 16-22

Total..... 120

Bachelor of Science Degree, College of Education

General Studies Requirements..... 45

Requirements for Major in Geography..... 31-33

 Geography 300 or GSB 103 and 443..... 6

 Any three: 302, 304, 310, 326, or one regional course 8-9

 Any 400 level courses 11-12

 Electives in Geography selected with the approval of the
 department 4-6

Professional Education Requirements 28

 Curriculum, Instruction, and Media 469 is required.
 See Teacher Education Program, page 63.

Minor (or selection of courses complementary to major) 15¹

Electives 0-1

Total 120-121

¹Students who intend the use of the minor for teacher certification must complete a minimum of 18 semester hours in the minor.

Minor

COLLEGE OF LIBERAL ARTS

A minor in geography requires 15-16

 Geography 300 or GSB 103..... 3

 Any three: 302, 304, 306, 310 or one regional course 8-9

 400 level courses..... 3-4

COLLEGE OF EDUCATION

A minor in geography requires 18-20

 Geography 300 or GSB 103..... 3

 Any two: 302, 304, 306, 310, or one regional course 5-6

 400 level courses..... 7-8

 Geography 443 3

Courses

202-2 Contemporary World Geography: Selected Regions and Places. A geographic study of selected regions and places of particular or current interest in the world. Some attention given to world overview and place names.

212-2 Maps and Mapping. History of cartography; properties, and sources of maps and air photos.

224-3 Geography of Natural Hazards. Damage from natural hazards in the United States is on the rise while loss-of-life has been declining. Losses from earthquakes, floods, hurricanes, tornadoes, drought, hail and urban snow in the United States are reviewed. The range of alternatives to cope with natural hazards are appraised; and special attention is given to

problems characteristic of all natural hazards — warnings, relief and rehabilitation, insurance, and land-use management.

257-1 to 5 Concurrent Work Experience in Geography. Concurrent work experience in tasks specifically related to the field of geography and such as are found in cartography and map work, climatology, and resource management. Prerequisite: geography major and consent of department. Mandatory Pass/Fail.

258-1 to 5 Past Work Experience in Geography. Past work experience in tasks specifically related to the field of geography such as are found in cartography and map work, climatology, and resource management. Prerequisite: geography major and consent of department. Mandatory Pass/Fail.

300-3 Introduction to Geography. The nature of geography, the kinds of problems which it investigates, the methods which it uses. Charges not to exceed \$5 for field trips.

302-3 Physical Geography. A study of the earth's physical surface, world distribution patterns of the physical elements, their relationship to each other and their importance to people. Field trip and laboratory work. Charges not to exceed \$5 for field trips. Prerequisite: 300 or consent. Elective Pass/Fail.

304-3 Economic Geography. Study of the spatial distribution and interaction of economic activities. Introduction to locational theory. Prerequisite: 300 or consent. Elective Pass/Fail.

306-3 Cultural Geography. An overview of the geographic viewpoint in the study of the human occupancy of the earth. Aspects of population, settlement, and political geography are treated, and a generalized survey of major world cultural areas is used to integrate course elements. Prerequisite: 300 or consent. Elective Pass/Fail.

310-3 Introductory Cartography. Properties of maps and air photos, their use and sources; map symbols, map projections and map construction. Introduction to the use of quantitative techniques as applied in geographic study. Laboratory. Charges not to exceed \$2 for supplies. Prerequisite: 300 or consent. Elective Pass/Fail.

326-3 Geography of Urban Environments. Explores the historic and present relationship between people and the urban environment, and between urban places and the sites which they occupy. Systems of measuring environmental quality are reviewed along with methods of assessing and forecasting change in the total urban environment. Elective Pass/Fail.

331-2 The Human Use of Climate. Introduces the basic concepts in the functioning of the climatic environment at the earth's surfaces and develops a holistic view of the way parts and processes of the earth interact through exchanges of energy and water with reference to questions of the human use of the earth. Elective Pass/Fail.

332-3 Oceanography. A systematic review of the world's oceans, with study of the nature of ocean water, the role of oceans in the Hydrologic Cycle, characteristics of ocean basins, the transport of ocean water, materials and energy exchanges in the oceans, and ocean management and resource problems. Elective Pass/Fail.

360-3 Geography of Illinois. Introduces and explores some of the spatial elements of the physical and human geography of the State of Illinois through a comparative analysis of the urban and rural lifespaces. Specific geographic issues and problems are selected by the students for group discussion and analysis. Charges not to exceed \$5 for field trips. Elective Pass/Fail.

362-2 Regional Geography of Europe. Introduces present-day Europe. Survey of the area and an investigation of problems and issues affecting the region. Elective Pass/Fail.

363-2 Regional Geography of Mediterranean Lands and Southwestern Asia. Geography of northern Africa and the Near East in a systematic context. Settlement and land use patterns, cultural history and diversity, and contemporary problems. Elective Pass/Fail.

364-2 Regional Geography: Soviet World. Introduction to and survey of the Soviet world and investigation of problems and issues affecting the region. Elective Pass/Fail.

365-2 Regional Geography of Subsaharan Africa. (Same as Black American Studies 380.) Analysis and explanation of emerging spatial pattern of socio-economic development in Africa as most meaningful to the geographer in assessing the continent's transition from traditional to modern political, social, and economic systems. Elective Pass/Fail.

366-2 Regional Geography: Eastern and Southern Asia. Introduces present-day Eastern and Southern Asia. Survey of the area and an investigation of problems and issues affecting the region. Elective Pass/Fail.

367-2 Regional Geography of South America. Analysis of the landscapes of tropical and Andean South America. Historical background of current patterns and problems. Present and future development problems in terms of natural resources, economic, and agriculture systems, and ethnic and settlement patterns. Elective Pass/Fail.

368-2 Regional Geography of Middle America. Interrelationships of groups of humans and their physical and social environments in Middle America. Emphasizes historical depth of perspective. Clarifies the origin of problems in the region. Elective Pass/Fail.

369-2 Regional Geography of Oceania. Introduces present day Oceania. Survey of the area and investigation of specific problems and issues affecting the region. Elective Pass/Fail.

404-3 Spatial Analysis. The purpose of this course is to equip the student with a series of perspectives and tools with which to view spatial phenomena. Emphasis is placed on methodological approaches to the analysis of areal distributions and phenomena. Longitudinal

analysis of data is included. Prerequisite: 300. Geography 410 is advisable or consent of instructor. Elective Pass/Fail.

406-2 Advanced Social Geography. Deals with one or more of the following: population, settlement, ethnic characteristics, political factors; depending on, and varying with, interests of the instructors. Thus, a student may register more than one time. Emphasis will be directed at familiarizing the student with techniques of analysis, and at developing concepts and principles that underlie understanding of the phenomena and their geographic significance. Prerequisite: 306 or consent. Elective Pass/Fail.

410-4 Techniques in Geography. Geographic applications of basic and advanced statistical and mathematical techniques, including basic descriptive statistics, hypothesis testing, regression and correlation, analysis of variance, and nonparametric statistics. Special emphasis on areal measures: nearest neighbor analysis, etc. Prerequisite: 300 or consent. Elective Pass/Fail.

416-4 Specialized and Computer Mapping. Introduction to computer mapping, mapping from air photos, specialized cartographic problems based on individual student interests. Laboratory. Charges not to exceed \$2 for supplies. Prerequisite: 310 or consent. Elective Pass/Fail.

418-3 Management of Spatial Data Bases. Introduces students to the use of specialized computer programs for the collection, storage, analysis, and mapping of spatial data. A simplified methodology makes the techniques available to students with no previous computer experience. Elective Pass/Fail.

421-2 Urban Geography. Examination of extracity relationships — theory and structure; intra-city relationships — theory and structure, and selected urban problems. Offered once annually. Prerequisite: 300 or consent. Elective Pass/Fail.

422-4 Economics in Geography and Planning. (Same as Economics 425.) Concepts, symbols, language, theory, and elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: 300 or consent of instructor. Elective Pass/Fail.

424-4 Natural Resources Planning. Literature in resource management problems. Emphasis on theory, methods of measurement and evaluation concerning implications of public policy. The role of resources in economic development and regional planning, water and related land resource problems, and environmental quality from a multi-disciplinary perspective. Prerequisite: 304 or consent. Elective Pass/Fail.

425-4 Water Resource Planning Simulation. A review of water resource planning theory and practice from a physical, technological, economic, social, and geographical viewpoint. Students design a comprehensive water resource plan including flood control, water supply, water quality, and recreation for a city of 175,000 population. This plan is "Played" against a 50-year trace of hydrologic parameters in a computer simulation. Prerequisite: 424 or consent. Elective Pass/Fail.

426-4 Administration of Environmental Quality and Natural Resources. (Same as Political Science 445.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Elective Pass/Fail.

427-3 Environmental Perception and Planning. Deals with a description and assessment of the relevance of normative and descriptive theories of decision-making and theories of choice for public policy and environmental management. Studies of the perception of urban environments and other landscapes such as wilderness areas, and perception of and human response toward natural hazards will be considered. Prerequisite: 300 or consent. Elective Pass/Fail.

430-3 Theory of Environment. Exploration of the hypothesis that the physical environment works on local hydrology, soils, and natural vegetation, agriculture, and landforms, through energy and moisture exchanges. Emphasis on model building for comparison of subsystems, to rate effectiveness of contrasting environments, and to project these consequences to environmental management questions. Prerequisite: 302 or consent. Elective Pass/Fail.

431-2 Medical Geography. Deals with the distribution of diseases and attempts to use the operational concepts of human ecology as a point of departure. A brief historical outline and an introduction to public health, epidemiology, and related fields is provided. Problems of communicable and chronic diseases, nutritional deficiency, geochemical relations, biometeorology and medical climatology, environmental pollution, and seasonal disease calendars are emphasized. Taught by Department of Geography staff. Prerequisite: 300 or consent. Elective Pass/Fail.

432-4 Physical Environments of Cities. Energy and moisture budget concepts are developed from basic principles. Microclimatic data, instrumentation and applications stress urban examples. Models of climatic effects and modeling of people's effects concern city climates mainly. Charge not to exceed \$5 for field trips. Prerequisite: 302 or 430 or consent. Elective Pass/Fail.

433-3 Advanced Physical Geography. Topics may include landforms, climate, soil or water. Varies with the interest of the instructor. Prerequisite: 302 or consent. Elective Pass/Fail.

434-4 Water Resources Hydrology. Microclimatic factors which affect the hydrologic events of various climatic regions are treated extensively. Methods of estimating geographic variations in hydrologic relations to climatic and microclimate especially evapotranspiration, are compared and evaluated. Consequences of alternative land uses on climate and hydrology are considered regionally. Charges are not to exceed \$10 for field trips. Prerequisite: 302 or 430 or consent. Elective Pass/Fail.

435-3 Solar and Alternate Energy Planning. Regional and national strategies for energy supply and demand are reviewed followed by a study of current energy resources, reservoirs, and the range of demands and environmental impacts. Community and national planning strategies for increasing the use of solar and alternate energies are explored, simulated by analog computer, and assessed for present and future implementation probability. Field trip expenses not to exceed \$10. Prerequisite: 300. Elective Pass/Fail.

438-3 Applied Meteorology. Analysis of meteorological patterns approached through study of several case histories. Evaluation of meteorological data, air mass and frontal analysis, development of weather forecasts, study of meteorological instruments, clouds, and precipitation patterns. Charges not to exceed \$5 for field trips, \$5 for supplies. Prerequisite: GSA 330 or consent of instructor. Elective Pass/Fail.

439-3 Climatic Change — Inevitable and Inadvertent. The geologic time-scale perspective of major natural events that have affected the theoretical steady-state climate, and factors in contemporary societal practices that have brought about inadvertent climatic modification. An assessment of the means and extremes of parameter values in the geologic time-scale perspective studied will be compared with the documented and present-day climatic parameter means and extremes. Approaches to prognoses for the Earth's future climatic state will be made. Charges not to exceed \$10 for field trips. Elective Pass/Fail.

440-2 Tutorial in Geography. Prerequisite: geography major, senior standing.

443-3 Teaching of Geography. Presentation and evaluation of methods of teaching geography. Emphasis upon geographic literature, illustrative materials, and teaching devices suitable to particular age levels. Charges not to exceed \$3 for field trips. Prerequisite: 300. Elective Pass/Fail.

470-6 to 9 (3, 1 or 2, 2 to 4) Urban Planning. (Same as Political Science 447.) (a) Planning concepts and methods. Charges not to exceed \$8 for field trips. (b) Field problems. (c) Planning and public administration internship (for undergraduate credit only). Prerequisite: consent of department. Elective Pass/Fail.

471-3 Regional Planning. A study of the viewpoints, methodology, and experiences of various types of regional planning in the United States; some attention given to state and national scale planning. Prerequisite: 300 or consent. Elective Pass/Fail.

487-6 (1, 2, 3) Honors in Geography. (a) Honors tutorial; (b) Honors reading; (c) Honors supervised research. Must be spread over the last two years of the undergraduate's career. May be taken in either a,b,c, or b,a,c, sequence. Prerequisite: consent of department. Elective Pass/Fail.

490-2 to 4 Readings in Geography. Supervised readings in selected subjects. Prerequisite: geography major, advanced standing. Elective Pass/Fail.

500-4 Principles of Research.

510-4 Multivariate Techniques in Geography.

511-2 Philosophy of Geography.

514-2 College Teaching of Geography.

520-2 to 4 Seminar in Physical Systems Evaluation.

521-2 to 4 Seminar in Resource Planning.

522-4 Seminar in Economics in Geography and Planning II.

524-2 to 4 Seminar in Social Geography.

527-2 to 4 Seminar in Urban and Regional Planning.

570-2 to 4 Planning Internship.

591-2 to 4 Independent Studies in Geography.

593A-2 to 24 (2 to 6 per semester) Research in Physical Geography.

593B-2 to 24 (2 to 6 per semester) Research in Economic Geography.

593C-2 to 24 (2 to 6 per semester) Research in Urban and Regional Planning.

593D-2 to 24 (2 to 6 per semester) Research in Social Geography.

596-2 to 4 Field Course.

599-2 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Geology (Department, Major, Courses)

In the field of geology a student may work toward either a Bachelor of Arts or Bachelor of Science degree.

The Bachelor of Arts degree requires a major in geology but is a flexible program, permitting a student to combine training in geology with courses in other areas of interest, such as peripheral sciences, management, or pre-law. A minor is optional. Having obtained a Bachelor of Arts degree, students may continue their education toward a Master of Science degree in geology, although it may be necessary to absolve deficiencies in physics and mathematics.

The Bachelor of Science degree requires a major in geology and courses in biology, chemistry, mathematics, physics, and science electives. This degree will ordinarily be pursued by students desiring to do graduate work in geology or to become professional geologists.

Bachelor of Arts Degree, College of Science

<i>General Studies Requirements</i>	45 ¹
<i>Supplementary College of Science Requirements</i>	5
Mathematics 110a,b or 111.....	(4) + 1
Foreign Languages	(4) + 4
Biological Sciences (Not General Studies).....	(6) ³
<i>Requirements for Major in Geology</i>	41-46
Geology 220, 221, 302, 310, 315, 325, 425, 474, and 450 or 454 ⁴	30-34
Chemistry 222 or 224 and 225	7-8 ²
Physics 203a, 253a or 205a, 255a.....	4 ²
<i>Electives</i>	24-29
<i>Total</i>	120

¹The 45 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.

²Courses will also meet the physical science requirement for the College of Science.

³If courses which have been approved as General Studies substitutes are taken, they will count as a part of the 45 hours in General Studies.

⁴The summer field geology course, Geology 454, should be taken between the junior and senior years.

Bachelor of Science Degree, College of Science

<i>General Studies Requirements</i>	45 ¹
<i>Supplementary College of Science Requirements</i>	5
Mathematics 110a,b or 111.....	(4) + 1
Foreign Languages	(4) + 4
Biological Sciences (Not General Studies).....	(6) ⁴
<i>Requirements for Major in Geology</i>	67-68
Geology 220, 221, 302, 310, 315, 325, 415, 425, 454 ³ , 474... ..	37
Geology electives	5
Mathematics 150	4
Chemistry 222 or 224, 225	7-8 ²
Physics 203a,b, 253a,b or 205a,b 255a,b,	8 ²
Electives in supporting sciences or technology (to be approved by geology undergraduate adviser).....	6
<i>Electives</i>	2-3
<i>Total</i>	120

¹The 45 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.

²Courses will also meet the physical science requirement for the College of Science.

³The summer field geology course, Geology 454, should be taken between the junior and senior years.

⁴If courses which have been approved as General Studies substitutes are taken, they will count as a part of the 45 hours in General Studies.

Minor

A minor consists of 16 hours, determined by consultation with the geology adviser.

Courses

Courses with a laboratory may require purchase of a laboratory manual and a supply fee. All courses requiring field trips may have a field trip cost of approximately \$2 to \$7.

220-3 Physical Geology. Introduction to the structure and composition of the earth, and concept of geologic time, and the physical and chemical processes that operate to modify the earth and its surface. Speculations concerning the origin and early development of the earth. Two lectures and one three hour laboratory. One Saturday field trip required. Prerequisite: high school or college chemistry. Elective Pass/Fail.

221-3 Historical Geology. Principles and methods of interpreting Earth's history. General view and selected examples of Earth's physical, biological, and chemical history. Laboratory and field trips required. Prerequisite: 220; a biology course recommended. Elective Pass/Fail.

302-4 Fundamentals of Structural Geology I. An introduction to structural geology including a study of the forces involved in the deformation of the earth's crust, with special emphasis on the recognition and interpretation of the resultant geologic features. Laboratory and two Saturday field trips required. Prerequisite: 220, Mathematics 110. Recommended: Physics 203, 204, or 205 or concurrent enrollment. Elective Pass/Fail.

310-4 Mineralogy. Rudiments of crystal structure, morphology and symmetry. Introduction to crystal chemistry. Study of the properties, chemistry, occurrence and identification of common rock-forming and economically important minerals. Lecture-laboratory. Prerequisite: 220, Chemistry 222, Elective Pass/Fail.

315-3 Igneous and Metamorphic Petrology. The characteristics and classification of igneous and metamorphic rocks, their origin and geologic distribution. Laboratory. Field trip required. Prerequisite: 310; 415 recommended. Elective Pass/Fail.

325-4 Sedimentology and Stratigraphy. The characteristic features of sedimentary rocks and the physical and chemical processes responsible for their origin and diagenesis. The classification of stratigraphic units, methods of correlation, and paleogeologic reconstruction. Laboratory and field trips required. Prerequisite: 220, 221, 310; 415 recommended. Elective Pass/Fail.

330-3 Geology of Illinois. For non-majors and beginners. The physical nature of Illinois, its landforms, rocks and soil, geologic history of its formation, active processes and hazards today. Resource development, land and water use and management. Laboratory provides for individual interests in collecting, photography, ecology, planning, etc. Elective Pass/Fail.

390-3 Introduction to Mining Geology. Structure and composition of the earth as these impact specifically on mining engineering problems; geologic time, sequence of events, major geologic provinces, types of ore deposits, use of core data, preparation and interpretation of geologic cross-sections. Two lectures and one three-hour laboratory. Two Saturday field trips required. Prerequisite: 220.

400-2 Earth Science Seminar. Designed to integrate the basic concepts of earth science gained through courses taken in several departments. Focus on one or more local problems such as development and management of Cedar Creek Reservoir. Prerequisite: GSA 110, upper class standing or consent of department. Elective Pass/Fail.

413-3 Quantitative Methods of Geology. An introduction to quantitative methods in a geological and earth sciences context. Topics introduced include sampling plans for geological studies, non-parametric tests of geological data, comparisons of geological samples, analysis of sequential geological data. Laboratories will deal with numerical examples from all areas of geology. Prerequisite: advanced standing and consent of instructor. Elective Pass/Fail.

414-1 to 2 Paleobotany. (See Botany 414.) Elective Pass/Fail.

415-3 Optical Mineralogy. The optical properties of minerals and the use of the petrographic microscope for identification of crystals by the immersion method and by thin section. Lecture, laboratory. Prerequisite: 310, Physics 203b, 204b, or 205b. Elective Pass/Fail.

416-3 X-ray Crystallography. (Same as Chemistry 416.) Introduction to the study, measurement, and identification of unknown crystalline materials by X-ray diffraction techniques (especially the Debye-Scherrer methods). Upon request, non-geology majors may work with unknowns from their own fields of study. Prerequisite: 310, Mathematics 150 or consent. Elective Pass/Fail.

417-3 Isotope Geochemistry. Stable and radioactive isotopes and the applications of isotopic studies to igneous and metamorphic petrology, ore deposits, sedimentology, surface processes, geothermometry, and geochronology. Introduction to isotopic techniques and mass spectroscopy. Laboratory or research project required. Prerequisite: 310, 315 and 325 or consent. Recommended: Physics 203, Mathematics 150 and Geology 419.

418-3 Low Temperature Geochemistry. The application of chemical principles to geologic processes that occur on and near the earth's surface. Lecture, laboratory. Prerequisite: 310, Chemistry 222 or equivalent. Elective Pass/Fail.

419-4 Ore Deposits. The geological and other factors that govern the exploration for and occurrence of metalliferous mineral deposits. Study of the geological settings of the major

types of ore deposits. Lecture, laboratories, and field trips. Prerequisite: 302, 315. Elective Pass/Fail.

420-3 Petroleum Geology. The geological occurrence of petroleum including origin, migration, and accumulation; a survey of exploration methods, and production problems and techniques. Laboratory study applies geological knowledge to the search for and production of petroleum and natural gas. Prerequisite: 221, 302. Elective Pass/Fail.

425-4 Invertebrate Paleontology. Principles of paleontology and a survey of the important invertebrate phyla and their fossil representatives. Laboratory. Field trips required. Prerequisite: 221, a biology course. Elective Pass/Fail.

428-3 Paleogeology and Environments of Deposition. Characteristics, distribution, and classification of recent and ancient environments. Criteria for recognizing ancient environments. Sedimentological and paleoecological approaches. Recognition of ancient environments and environmental associations. Laboratory. Field trips required. Prerequisite: 425, 325 or concurrent enrollment. Elective Pass/Fail.

430-3 Physiography of North America. A regional study of North American landforms and their origins. The approach designed to give interaction among students, stimulus in organization and presentation of material and library competence. Plan a trip for optimum view of North American physiography. Prerequisite: 220. Elective Pass/Fail.

435-3 Hydrogeology. A problem-solving oriented course which covers the analysis and interpretation of the distribution, origin, movement, and chemistry of ground water. Laboratory. Prerequisite: 220, Mathematics 250. Elective Pass/Fail.

436-4 Elementary Exploration Geophysics. Theory and practice of geophysics as applied to the exploration and development of natural resources. Laboratory involves use of geophysical instruments and interpretation of data. Field trips required. Prerequisite: 220, Mathematics 150. Elective Pass/Fail.

437-3 Field Course in Geophysics. Use of geophysical equipment for collection, analysis and interpretation of seismic, gravity, magnetic, electrical, and other types of geophysical data. Prerequisite: 436 or consent.

440-1 to 4 Advanced Topics in the Geological Sciences. Individual study or research or advanced studies in various topics. Prerequisite: advanced standing and consent of instructor. Elective Pass/Fail.

445-3 Museum Studies in Geology. History, nature and purpose of geology in museums, relationships of geology to other museum disciplines, application of geologic methods to museum functions, preparation and preservation of specimens; nature, acquisition and utilization of geologic collections in museums, role or research in museums.

449-1 to 2 Internship. Credit for professional experience in the geological sciences. Arrangements made with chairperson. Prerequisite: advanced standing. Elective Pass/Fail.

450-2 Introduction to Field Geology. Introduction to field techniques, principles of geologic mapping and map interpretation. Field trip fee \$5. Prerequisite: 302, 315 or concurrent enrollment. Elective Pass/Fail.

454-6 Field Geology. Advanced field mapping in the Rocky Mountains, including problems in stratigraphy, structure, petrology, paleontology, geomorphology, and economic geology. Transportation cost approximately \$150, supplies \$6. Prerequisite: 302, 315; 450 recommended. Elective Pass/Fail.

455-3 Engineering Geology. (Same as Engineering 455.) An examination of problems posed by geology in the design, construction, and maintenance of engineering works. Topics studied include ground water, land subsidence, earthquakes, and rock and soil mechanics. Two term papers and a field trip required. Prerequisite: 220 or consent. Elective Pass/Fail.

460-3 Geological Data Processing. Computer applications to geological problems including the processing and programming of data and the interpretation and evaluation of results. Lecture, laboratory. Prerequisite: Engineering 222 or Computer Science 202. Elective Pass/Fail.

462-3 Fundamentals of Structural Geology II. Intermediate topics in structural geology including strain theory, field strain analysis, geometry of complex mesoscopic structures and introduction to dislocations, deformation history, and microfabric analysis. Hypotheses and orogenesis are discussed and evaluated. Lecture and assigned problems only. Prerequisite: 302 or equivalent.

465-3 Evolution of Orogenic Belts. A combination of lectures and seminars in which the structural and petrological development of specific orogenic belts is investigated in detail. Prerequisite: 302, 315 or equivalent. Elective Pass/Fail.

470-3 Earth Science for Teachers. Designed to help each teacher improve knowledge and skills of the earth sciences, develop units, laboratories, and resources for the classroom. Subjects range from rocks and landforms to weather; from local geology to specific resource people. Prerequisite: teaching experience. Elective Pass/Fail.

474-3 Geomorphology. Study of erosional and depositional processes operating at the earth's surface and landforms resulting from these processes. Relationship of processes and landforms to the geologic framework is examined. Laboratory. Prerequisite: 220. Elective Pass/Fail.

476-3 Pleistocene Geology. Deposits, stratigraphy, and history of the Pleistocene epoch.

Evidence for differentiating and dating the glacial and interglacial sequence examined including deep sea cores, soils, magnetic studies. Required field trips. Prerequisite: 220, 221. Elective Pass/Fail.

478-3 Environmental Geology. Identification of geological conditions and processes which affect people's use of the environment: earth materials and structure, climate, water, topography, active geologic processes, hazards; impact of extraction, construction, water collection and control, and waste disposal. Introduction to aims and responsibilities of government regulatory agencies, environmental groups, and industry. Lecture, laboratory, field trips, individual projects, and reports. Prerequisite: 220 or equivalent and advanced standing.

480-3 Geology of Coal. Geology as related to exploration, development and mining of coal; stratigraphy, sedimentation and structure of coal deposits; type of coal basins and their tectonic setting; concepts of cyclical deposition in coal basins; origin of splits and partings in coal seams; relationship of modern environments and ancient coal-forming environments; structural problems relevant to exploration and mining of coal; methods of resource evaluation. Three 1-hour lectures/week; five ½ day field trips.

482-3 Coal Petrology. Structural features and microscopy of coal seams. Origin and alteration of coal constituents. Includes field trips, study of coal specimens, and techniques. Prerequisite: 220 and 221 or consent of instructor. Elective Pass/Fail.

484-3 Palynology. (Same as Botany 484.) Taxonomy, morphology, stratigraphic distribution, and ecology of fossil pollen, spores, and associated microfossils. Prerequisite: 220, 221, or consent of instructor. Elective Pass/Fail.

500-1 to 2 Teaching for Geology Graduate Students.

510-3 Advanced Sedimentation.

513-2 Advanced Geologic Data Analysis.

516-3 Industrial Rocks and Minerals.

518-3 Clay Mineralogy.

520-3 Igneous Petrology.

521-3 Metamorphic Petrology.

522-3 Sedimentary Petrology — Siliciclastics.

523-3 Sedimentary Petrology — Carbonates.

526-3 Advanced Topics in Applied Paleocology.

527-3 Micropaleontology.

529-1 to 3 (1 per topic) Advanced Topics in Applied Invertebrate Paleontology.

535-3 Advanced Hydrogeology.

537-3 Applied Seismology.

538-3 Gravity and Magnetism.

542-2 (1, 1) Seminar in Geology.

565-3 Rock Deformation and Structural Systems.

578-3 Fluvial Geomorphology.

579-3 Advanced Geomorphology.

582-1 to 6 (1 to 3 per semester) Advanced Coal Petrology.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Guidance and Educational Psychology

(Department, Major [Graduate Only], Courses)

The Department of Guidance and Educational Psychology does not offer an undergraduate major but offers courses for undergraduate credit which serve as electives for students in other programs.

Courses

100-2 Decision Making for Career Development. Examination of factors relating to career decision making. Emphasis on the continuous use of learned processes and information in vocational development. Supplementary group guidance and counseling sessions required. Charges may be assessed to cover the cost of administering and scoring occupational interest surveys to be given during the course. These charges should be less than \$10.

307-3 Educational Psychology. The basic factors involved in the teaching-learning process including student characteristics, motivation, learning, and teacher-student relationships. The course activities are intended to prepare the student with a basic foundation in educational psychology for the purpose of teaching.

380-1 to 4 Practicum in Instructional Roles. One semester hour of credit for every three modules selected. Application of educational psychology in a practical teacher-learner situation. Class members conduct actual instructional activities with individuals or groups of students. Field activities are required and the students may be required to purchase additional materials not to exceed \$20. Prerequisite: consent of instructor.

- 402-3 Basic Statistics.** A master's level terminal statistics course. Emphasis on descriptive statistics and graphical representation of data. Includes a brief introduction to hypothesis testing procedures.
- 412-3 Human Behavior and Mental Health.** A study of the principles of human needs, mechanisms of adjustment, and factors and conditions in life that tend to affect mental health. Prerequisite: junior or senior standing.
- 422-3 Assessment and Classroom Models.** Classroom tests, measurement, standardized tests, grading, and the research knowledge in the application of ability grouping, team teaching, open education, and individualization for individuals of differing abilities.
- 442-3 Introduction to Counseling and Guidance Systems.** The following topics will be covered: purposes of counseling and guidance; counselor roles in various settings; approaches to counseling; guidance activities; and application of the above.
- 481-1 to 12 Seminar.** Conducted by staff members and distinguished guest lecturers on pertinent topics. Prerequisite: consent of instructor and department.
- 491-1 to 6 Special Research Problem — Individual Study.** For majors. Formulating, investigating, and reporting on a problem in the area of guidance. Prerequisite: advanced standing and consent of department.
- 493-3 Counseling Skill Development.** Through simulated counseling situations and extensive examination of counseling case studies, counseling skills are examined and practiced.
- 494A-3 Child Counseling Practicum.** A combined seminar, laboratory, and field experience representing the central focus of the program in elementary counseling. Enables the student to practice the role of the counselor under close supervision. Prerequisite: 537 and 3 additional hours from substantive course work in the guidance and counseling program.
- 494B-3 Adolescent and Adult Counseling Practicum.** Practice of counseling skills with an adolescent or an adult population in varied settings. The professional setting depends on the student's interest area. Individual and group supervision are provided. Use of tape recorder is required. Prerequisite: 538 and 3 additional hours from substantive course work in the guidance and counseling program.
- 494C-3 Career Counseling Practicum.** Supervised experience in handling career development experiences at elementary, secondary, or college levels. Application of theoretical models to program development is stressed, including presentation of relevant lessons, handling of group guidance activities, and conducting individual career development counseling sessions. Intern experience in public school or college settings equal to one day per week is required. Prerequisite: 542 and 3 additional hours from substantive course work in the guidance and counseling program.
- 494D-3 to 6 (3, 3) Practicum in School Psychology.** Observation and participation in case conferences related to the development of psycho-educational assessment and planning, including teacher and parent consultation, field observations, and psychometric applications. Prerequisite: consent of instructor.
- 506-4 Inferential Statistics.**
- 507-4 Multiple Regression.**
- 511-3 Instructional Psychology.**
- 512-3 Affective and Cognitive Behaviors at the School Level.**
- 513-3 Psychological Trends in Education.**
- 515-3 The Psychological Aspects of Instructional Design.**
- 518-3 Psychology of the Classroom.**
- 521-3 Analysis of Classroom Behavior — Consultative Practices for School Personnel.**
- 525-3 Cross Cultural Factors Affecting Counseling.**
- 530-3 Standardized Testing: Use and Interpretation.**
- 531-3 Principles of Measurement.**
- 532-3 Theories of Intelligence.**
- 533-4 Individual Measurement and Practice.**
- 537-3 Counseling Children: Theory, Techniques, and Practice.**
- 538-3 Adolescent and Adult Counseling: Theory, Techniques, and Practice.**
- 540-3 Problems, Issues, and Trends in School Guidance and Counseling.**
- 542-3 Career Development Procedures and Practices.**
- 543-3 Group Theory and Practice.**
- 546-4 Personality Assessment.**
- 547-3 Implementation of Counseling Services.**
- 551-3 The Supervision of Practicum.**
- 555-3 to 6 (3, 3) Seminar in School Psychology.**
- 562-6 (3, 3) Human Development in Education.**
- 567-2 to 9 (2 to 6 per semester) Topical Seminar in Educational Psychology.**
- 568-1 to 12 (1 to 6 per semester) Topical Seminar in Counseling and Guidance.**
- 570-3 Humanistic and Behavioral Theories in Education.**
- 580 Doctoral Seminar in Educational Measurement and Statistics.**
- 591-3 to 6 Internship in Counseling.**
- 592-1 to 8 (1 to 6 per semester) Independent Study and Investigation.**
- 593-1 to 4 Individual Research.**
- 594-1 to 6 Advanced Practicum.**

595-4 to 8 (4, 4) Internship in the Psychology of Teaching.
 596-15 (5 per semester) Internship in School Psychology.
 597-12 (6, 6) Doctoral Internship in Counseling.
 599-1 to 6 Thesis.
 600-1 to 32 (1 to 16 per semester) Dissertation.
 601-1 to 12 per semester Continuing Research.

Health Education (Department, Major, Courses)

The Department of Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Community health. For those planning to conduct health education and health promotion activities in non-classroom settings.
2. Health education in secondary schools. For those planning to teach health education in the secondary schools.

The two minimal professional preparations are:

1. Health education in secondary schools. For those planning to teach or supervise health education in the secondary schools.
2. Driver education. For those planning to teach driver education in Illinois secondary schools.

These specializations in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field.

Psychomotor and verbal skills are required for students enrolled in Health Education 334 and 434. If questions arise concerning an individual student's ability in these areas, an assessment will be made prior to the end of the first week of the semester to determine whether the individual student possesses the necessary skills to remain in the course. The final decision will be made by the first aid coordinator in the Department of Health Education.

Bachelor of Science Degree, College of Education

HEALTH EDUCATION MAJOR — COMMUNITY HEALTH SPECIALIZATION

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Health Education</i>	39
Health Education 301, 305, 311, 312, 326, 330, 355, 401, 483, 490, 491, and Curriculum, Instruction and Media 440	
<i>Recommended Electives</i>	9-12
<i>Electives</i>	24-27
<i>Total</i>	120

HEALTH EDUCATION MAJOR — HEALTH EDUCATION IN SECONDARY SCHOOLS SPECIALIZATION

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Health Education</i>	30
Health Education 301, 305, 312, 313s, 326, 334, 355, 401, 405, and 491	
<i>Professional Education Requirements</i>	25
(See Teacher Education Program, page 63.)	
<i>Electives</i>	20
<i>Total</i>	120

The two minimal professional preparations requirements for Illinois teachers are:

Health Education in Secondary Schools: Health Education 301, 305, 312, 334, 355, 405, and 491

Driver Education: Health Education 302S, 313S, 442S, 443S, 475S, plus three hours of electives from the following: Health Education 323S, 334, 445, 470S, 480S, 481S, 495S

Courses

301-3 Advanced Concepts of Health. Interrelatedness and interdependence of health as a total concept. Concepts of health and health education within the context of an option-expanding world are examined. Emphasizes role of the individual in assuming responsibility for one's own health behavior as well as education for a health-activated citizenry.

302S-3 Driver and Traffic Safety Education — Introduction. A beginning course that deals with the highway transportation system, traffic problems, the driving task, perception and implementation of the driver education classroom program. Observation of the teaching environment is included. Prerequisite: a valid driver's license.

305-3 Principles and Foundations of Health Education. An introductory professional course in the field, designed to implement the evolving concept that health education is both content and process; major concepts for a variety of teaching-learning approaches in school and other community settings are considered; health careers and opportunities in field are described.

310-4 Emergency Medical Technician. Upon successful completion of a comprehensive examination, meets the formal requirements and certification to complete the basic training program for the emergency medical technician. The course is concerned with cognitive and practical experiences. Required to purchase supplies at a cost of \$20 per student. Prerequisite: consent of instructor.

311-3 Human Growth and Development. An overview of human development from conception through senescence. Designed for professional personnel who will be concerned with planning health programs for groups representing broad age ranges. Emphasis will be on physical, mental, and social dimensions of growth and development.

312-3 Emotional Health. Concepts of positive emotional development in terms of influence in the classroom and other community settings.

313S-3 Introduction to Safety Education. Introduces the principles and fundamentals of safety education. Concerns safety as a social problem and considers major accident areas, accident causes, liability and analyzes possible solutions to accident problems.

323S-3 Methods and Materials in Safety Education. Learning strategies used in teaching safety for elementary and secondary school levels. Emphasizes selection and design of materials participation and demonstration.

326-3 Evaluation in Health Education. Principles and methods for monitoring the implementation of health education and for assessing its impact. Development and selection of valid and reliable measures. Use of standardized scores and other appropriate statistics. Applications in classroom and community settings.

330-3 Consumer Health. Federal and state legislation affecting consumer health; official watchdog agencies on consumer health; non-official agencies (AMA, CU, etc); health and advertising in health and medicine; cultists' and faddists' effect on consumer health.

334-3 Standard First Aid and Personal Safety. Provides students with first aid knowledge and skill competencies necessary to care for injuries and meet emergencies. The course can lead to certification in American National Red Cross standard first aid and personal safety, cardiopulmonary resuscitation, and standard first aid and personal safety instructor programs.

350-3 Health Education in the Elementary School Curriculum. Acquaints the prospective teacher in the elementary school with fundamental processes, techniques and instructional materials related to health education.

355-3 Introduction to Community Health. Organization and administration in local, state, and national official and non-official health agencies, their purposes and functions, and an overview of methods for meeting community health needs and for solving community health problems.

400-3 Health Appraisal of School Children. The teacher as a member of the health team in recognizing common health deviations. Emphasis on helping each child realize full health potential.

401-3 Epidemiological Approaches to Disease Prevention and Control. Principles and practices in the cause, prevention, and control of diseases in various community settings.

402-3 Death Education. Designed to prepare educators to conduct learning experiences about death and dying in a variety of school, college, medical care, and community settings. Stress will be placed on developing brief, functional curricula and usable, imaginative teaching-learning materials, and on evaluating resource materials for use in educating at various levels of maturity.

405-3 Sex Education. Examines various programs of sex and family life education in schools, recognizing a range of community attitudes.

406-3 A Seminar: The Health Professional and Human Sexuality Issues. Human sexuality issues which must be dealt with by professional health workers including nurses, physicians, patient educators, institutional supervisors, and other administrators are considered in the

course and current approaches and solutions for questions raised by these issues are examined.

407-3 Drug Education. Meets requirements of Illinois state law for education concerning drugs including alcohol for grades K-12. Explores motivations behind use and abuse of drugs. Offers experiences in development of curriculum and teaching approaches and material.

411-3 Emergency Medical Technician in the Wilderness. Placement of trained emergency medical technicians into a wilderness situation and having them adopt previously learned skills and newly developed skills. Required to help purchase supplies as indicated in class. Prerequisite: 310 or 434.

434-3 Advanced First Aid and Emergency Care. Meets the needs of those in positions where a complexity of first aid and emergency care procedures are needed. American National Red Cross and Illinois Heart Association cardiopulmonary resuscitation instructor authorizations provided. Consent of instructor required.

440-3 Health Issues in Aging. Students enrolled in the course will be involved in a wide variety of learning activities focusing on health needs of the elderly. The course is designed for students who have a special interest in health implications of aging.

441-3 Women's Health. The course deals with a wide variety of health concerns of American women as consumer in the current health marketplace. Major categories of topics include health products, health services, and sources of health information of particular interest to women. Emphasis is also placed on current health related issues of women. The major purpose of the course is to provide a basis for informed decision-making by the female consumer.

442S-5 Driver and Traffic Safety Education — Practicum. Provides prospective teachers with simulation, range, and on-road teaching experience with beginning drivers. Students may be required to purchase materials not to exceed \$15. Prerequisite: 302S.

443S-3 Driver and Traffic Safety Education — Program Administration. Emphasizes administration, reimbursement, scheduling, public relations, planning, and evaluation of driver education programs. Prerequisite: 442S or consent of instructor.

445-2 to 6 (2 to 3, 2 to 3) Contemporary Specialized Laboratory Techniques. Provides teachers and other highway safety personnel with instructional experience in (a) motorcycle safety, (b) emergency evasive and pursuit driving. Prerequisite: 302 or consent of instructor. Maximum of 6 semester hours may be obtained either graduate or undergraduate.

450-3 Health Programs in Elementary Schools. Orientation of teachers to health programs and learning strategies. Designed for elementary education majors.

455-3 Computer Applications in Health Education. Designed for students with little or no previous experience with computers. The course will be applications oriented, with an introduction to the potential uses of computers in the field of health education.

460-3 Health Programs in Secondary Schools. Orientation of teachers to health programs and learning strategies. Designed for secondary education majors. Open to non-health education majors only.

461-3 Health Education Summer Conference. A different focal theme each year; e.g., mood modifying substances, ecology, human sexuality, emotional and social health dimensions. Information, ideas, and concepts are translated into teaching-learning materials and approaches; continuing opportunity for interaction between prospective and experienced teachers.

462-3 Health Education Summer Conference. Conference style and format are similar but themes change.

463-3 Health Education Summer Conference. Conference style and format are similar but themes change.

470S-3 Highway Safety as Related to Alcohol and Other Drugs. Relationship between alcohol and other drugs and traffic accident causes. A review of education programs designed to minimize drug related accidents. Prerequisite: advanced standing or consent of instructor.

471-2 Health Education Instructional Designs. Analysis of existing health education curricula with emphasis on student development of instructional designs and modules. Students will prepare, utilize, and critique materials. Prerequisite for student teaching in health education. Prerequisite: 305.

475S-3 Traffic Law Enforcement and Planning. Acquaints safety and driver education teachers and highway safety personnel with purposes of traffic law enforcement and engineering, and methods used to fulfill these purposes. Emphasis is placed upon ways of improving existing services and coordinating efforts of official and non-official agencies concerning traffic problems. Prerequisite: 302S or consent of instructor.

480S-3 Traffic and Driver Education Program Development. Acquaints students with curriculum innovation, current philosophy, learning and teaching theories, and instructional designs. Students will develop learning packages and modules. Prerequisite: 443S or consent of instructor.

481S-3 Traffic and Safety Education — Evaluation Techniques. Emphasizes method of evaluation as applied to traffic and safety education programs. Prerequisite: 480S or consent of instructor.

483-3 Community Health Administration in the United States. Background and development of community health administration structures in the United States; the dynamics and trends evolving from current health and medical care programs and practices.

- 485-3 International Health.** Health beliefs, values, and practices of peoples in various cultures as related to a total way of life of potential value to both prospective teachers and students in other fields.
- 488-3 Environmental Dimensions of Health Education.** Application of the principles of learning to understanding people interacting with their environment. Emphasis placed upon individual and community responsibilities for promoting environmental health. Rural and municipal sanitation programs and practices are included.
- 489-3 Introduction to Vital Statistics.** An introduction to bio-statistics; examination of theories of population projections; collection, organization, interpretation, summarization, and evaluation of data relative to biological happenings with emphasis on graphic presentation.
- 490-2 to 6 Field Experiences in School, Community Health or Safety Education.** Field observation, participation, and evaluation of current school or community health education or safety programs in agencies relevant to student interests. Prerequisite: consent of instructor.
- 491-3 Health Teaching/Learning: School and Community.** Teaching and learning strategies at secondary school levels and in other community group settings. Opportunities to examine and observe a variety of educational strategies applicable to health education.
- 495S-3 Driver Education for the Handicapped.** Methods and techniques in the use of assistive equipment and program materials for teaching handicapped persons how to drive. Prerequisite: advanced standing or consent of instructor.
- 496-4 Industrial Hygiene.** Provides a background in the recognition, evaluation, and control of toxic materials and hazardous physical agents in the work environment. Prerequisite: consent of instructor.
- 499-3 Rx: Education in Health Care Settings.** Designed for members and potential members of the health care team to explore educational concepts and strategies applicable to a variety of health care settings. Includes rights and responsibilities of consumer and professional, determinants of health behavior, contrasting models of health care, communication skills, media and materials and planning, implementing and evaluating educational programs. Open to medical and dental personnel, nurses, health educators, dieticians, therapists, pharmacists, social workers, and related professionals.
- 500-4 Community Organization for Health Education.**
- 510-3 Curriculum in Health Education.**
- 511-3 Health Education Conference Practicum.**
- 515-3 Review of Current Literature in Health Related Fields.**
- 520-3 Special Projects in Health Education.**
- 526-3 Evaluative Approaches to Health Education.**
- 530S-3 Research in Traffic Safety.**
- 533A-4 Human Ecology I.**
- 533B-4 Human Ecology II.**
- 536-3 Professional Preparation in Health Education.**
- 550S-3 Current Developments in Traffic and Safety Education.**
- 555S-3 Traffic Safety Management.**
- 572-3 Coordination and Supervision of School Health and Safety Programs.**
- 590-8 Practicum in Community Health.**
- 592-8 Practicum in Safety and Industrial Health.**
- 597-2 (1, 1) Seminar in Health Education.**
- 598-3 Institute: Writing Research Proposals.**
- 599-1 to 6 Thesis.**
- 600-1 to 32 (1 to 16 per semester) Dissertation.**
- 601-1 to 12 per semester Continuing Research.**

Higher Education (Department, Major [Graduate Only], Courses)

The Department of Higher Education does not offer an undergraduate major or minor but it does offer certain courses for undergraduates who wish to learn about higher education, its history, institutions and organization, and current issues. Undergraduates interested in this area are advised by their regular academic advisers.

Courses

399-4 (2, 2) Problems of Higher Education in the United States. An introduction to the broad understanding of higher education in the United States designed to provide perspective. (a) Historical development with an emphasis on such basic concepts as lay control, academic freedom, and institutional response to social needs. (b) A problem approach is utilized to develop an understanding of faculty, student, and administration roles in solving problems, with an emphasis upon the instruments of governance in colleges and universities as well as

upon the meaning of accountability, control, and support of higher education. This course is open to any interested student. Need not be taken in sequence. Elective Pass/Fail.

402-1 to 3 Principles of Student Personnel Group Work. Acquaints the student with group work possibilities and functions in higher education. Elective Pass/Fail.

431-3 Workshop in Adult and Community Education. (See Educational Leadership 431.)

501-2 Introduction to Research in Higher Education.

510-3 Higher Education in the United States.

512-3 Higher Education in Selected Nations.

513-3 Organization and Administration in Higher Education.

515-3 College Student Development: Operations and Policies.

516-3 College Students and College Cultures.

518-3 College Teacher and College Teaching.

521-3 Curriculum Design and Policy.

525-3 Philosophy of Higher Education.

526-3 The Community College.

528-3 Finance in Higher Education.

535-1 to 14 (a-h-1 to 3 each; i-1 to 6) Higher Education Seminar I.

545-1 to 16 (a-g-1 to 3 each; h-1 to 8) Higher Education Seminar II.

550-1 to 4 Higher Education Seminar III.

589-1 to 4 Higher Education Research Seminar.

590-1 to 6 Individual Readings.

591-1 to 6 Individual Study.

592-1 to 6 Special Problems (Individual).

595-1 to 6 Internship in Higher Education.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

History (Department, Major, Courses)

A major in history consists of a minimum of thirty-two semester hours of history courses. Students who plan advanced study in preparation for college teaching or other professional work are advised to take added work.

Courses may be chosen from all departmental offerings except for GSB 105. Pass/Fail grades do not carry credit toward the major or minor in history. A number of different patterns are available for students anticipating various futures. Students should consult with departmental advisers to choose the pattern that fits their needs. The basic regulation is that, for a course to count toward the major, it must be approved in advance by one of the advisers in the department. Normally the department will accept a substantial part of the credits in history taken in other accredited institutions up to a total of 16 hours. In every case, transfer students must have taken at least 16 semester hours in history at Southern Illinois University at Carbondale.

Advisers are available in the Department of History to assist students in planning their programs in accordance with current University and departmental regulations. Normally courses must represent at least two areas of history (United States, European, and Third World) with a minimum of three courses in two areas, or two courses in each of the three areas. Students must also complete a minimum of three courses at the 400 level and they must write a research paper in conjunction with any 400-level history course.

All history majors should meet with the department's undergraduate advisers each semester to keep up to date the records of their progress toward the degree and to receive advance approval of their courses. Transfer students should report to the department prior to their first semester of attendance. A C average in the major is required for graduation. A 2.25 average in the major is required before student teaching will be approved by the department.

Students with exceptional scholarly promise may be invited into the departmental honors program which begins with a colloquium and continues with an honors seminar and thesis prepared under the direction of a member of the department.

Graduation with departmental honors in history is given to those who successfully complete the program.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements (See page 72.)</i>	(4) + 8-14
<i>Requirements for Major in History.</i>	32 ¹
Two courses in American history, two courses in European history, and two courses in Third World: Latin American, Asian, and/or African history, or three courses in each of two of the above fields	18-24
History electives	8-14
<i>Electives</i>	29-35
These may include 27 hours in professional education for teacher certification.	
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<i>Total</i>	120

Bachelor of Science Degree, College of Education

<i>General Studies Requirements</i>	45 ²
<i>Requirements for Major in History</i>	32 ¹
Eight hours in American history, two courses in European history, and two courses in Third World: Latin American, Asian, and/or African history, or three courses in each of two of the above fields	18-24
History electives	8-14
<i>Professional Education Requirements</i>	27
See Teacher Education Program, page 63.	
Curriculum, Instruction, and Media 469 is required.	
<i>Electives</i>	16
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<i>Total</i>	120

Minor

A minor in history consists of 16¹ semester hours. The student is advised to balance courses between at least two of the three fields of American, European, or Third World history. Transfer students, in order to have a minor in history, must have taken at least eight semester hours in history at Southern Illinois University at Carbondale.

¹At least three courses must be taken at the 400 level.
²See catalog section titled Curriculum, Instruction, and Media for specific certification requirements in General Studies and other areas.

Courses

- 200-3 Problems in the History of World Civilization.** Seminar focusing on selected topics in world history. Prerequisite: University Honors Program status or consent of instructor. Elective Pass/Fail.
- 205-6 (3, 3) History of Western Civilization.** (a) From ancient times through the sixteenth century; (b) The seventeenth century to the present. A brief survey of the major developments and trends in European history from ancient times through the 20th Century. Elective Pass/Fail.
- 303-1 to 3 Topics in Comparative History.** A comparative study of recurring themes in the history of diverse societies and civilizations. Topics will vary and will be announced in advance. Topics to be covered include the problem of slavery, technology and society, war, and civilization. Elective Pass/Fail.
- 310-4 Ancient Civilizations.** A comparative study of ancient near eastern and classical civilizations of the Fertile Crescent and the Mediterranean Basin: Mesopotamia, Egypt, Palestine, Greece, and Rome. Elective Pass/Fail.

313-4 Great Ideas in History: Ancient Greece to Early Modern Times. An introduction to the ideas and culture of western civilization over a period of two thousand years, from the ancient Greeks to the Reformation. The great ideas in philosophy, religion, political theory, and other literature are stressed, and attention given to related trends in painting, sculpture, architecture and music. Slides of art works are shown and tapes of music are played. Elective Pass/Fail.

315-4 Mediaeval Europe. The emergence of Europe from the Age of Constantine to the Black Death, with emphasis on the political, socio-economic, and cultural forces which were at work creating Europe. Elective Pass/Fail.

320-4 Early Modern Europe. The development of Europe from the 16th Century through the Age of the French Revolution. Elective Pass/Fail.

323-3 History and Artistic Creativity. A selected exploration of the specific conditions in Western history, from the Renaissance to the present, which have encouraged and given direction to creativity in the arts. Elective Pass/Fail.

324-3 Women in European Society: 1600 to Present. The legal, social, economic, and political position of women in European society during the past 350 years are examined against the backdrop of industrialization, political democratization, world wars, and totalitarianism. How women participated in, reacted to, and were affected by this transformation are the major themes of the course. Contemporary writings as well as historical works will be utilized.

325-3 Europe Since 1815. The development of Europe from the Age of the French Revolution to the present day. Elective Pass/Fail.

330-6 (3, 3) English History. (a) England to 1688; (b) England since 1688. Political, social, economic, and cultural history of England. Elective Pass/Fail.

336-3 Fascist Dictatorships in Contemporary Europe: Italy, Germany and Spain. Mussolini's fascism, Hitler's national socialism, and Franco's falangist authoritarianism in historical context. Prerequisite: sophomore standing or consent of instructor. Elective Pass/Fail.

338-3 Eastern Europe. An historical survey of the East European area from the Baltic to the Balkans, with emphasis on the modern era. Elective Pass/Fail.

339-3 Contemporary Soviet Civilization. Developments in the Soviet Union since World War II, with coverage of similarities and dissimilarities of the U.S. and the USSR, their conflict and cooperation. Discussion of Soviet cultural minorities and the stature of the Soviet Union in the Third World.

350-2 The Revolution and the Constitution. A study of the conflicting forces which produced the American Revolution, led to the creation of the federal union and shaped the early republic. Elective Pass/Fail.

354-3 The United States Since 1945. America enters the atomic age; a study of American society since the end of the Second World War and the role played by the United States in the world. Elective Pass/Fail.

355-2 to 3 The Radical View in American History. A study of American radicalism from the revolution to the present.

362-6 (3, 3) Black American History. (Same as Black American Studies 311.) (a) Black American History to 1865; (b) Black American History since 1865. The role of Blacks and contribution in the building of America and their ongoing fight for equality.

364-3 The Great Depression in the United States. Causes and effects of the great depression and of governmental measures for relief, recovery, and reform during the years 1929-1942. Elective Pass/Fail.

365-3 History of Social Welfare in America. Discussion of the changing attitudes and problems which Americans have applied to the problems of social welfare from the colonial period to the present. Focuses on the condition of the poor, the attitudes toward the poor, and the institutions, public and private, which were created to meet the obligations of social welfare. Elective Pass/Fail.

366-2 to 3 American Indian History. A comprehensive history of American Indians from prehistoric times to the present.

367-3 History of Illinois. The history of the state from 1818 to the present.

368-3 Women in American History. Covers the role of women in colonial society, the impetus for an organized women's rights movement in the 19th century and how it related to general reform movements, and gains and setbacks in the industrial-urban society of the 20th century.

369-3 History of the American Family. A survey of the American family from its origins to the present, focusing on the variety of families — English, African, later immigrants, middle class, and poor. During the course students will write their own family histories, thereby applying what they have learned to their own lives.

370-6 (3, 3) History of Latin America. (a) Colonial Latin America. (b) Independent Latin America. An introduction to the political, economic, social, and cultural development of Latin America from pre-Columbian times to the present. Elective Pass/Fail.

380-6 (3, 3) History of East and South Asia. (a) China and Japan; (b) India and Southeast Asia. The first semester focuses on China and Japan from early times to the present; the second semester concentrates on India and Southeast Asia in modern times.

385-3 Islamic Civilization. A survey of the development of the Islamic world from Mohammed to the present. Emphasis on continuing themes of Moslem civilization and their effects in the modern world.

387-6 (3, 3) History of Africa. (Same as Black American Studies 314.) (a) History of West Africa. A study of West African peoples from earliest times to the present, including the era of kingdoms, the role of Islam, African-European relations, colonialism, and African nationalism. (b) History of East-Central Africa. From earliest times to the present, including migrations and kingdoms, African-Arab-European relations, colonialism, and African nationalism. Elective Pass/Fail.

390-3 History in Fiction. A comparative study of fictional accounts and of analyses written by historians over selected periods or topics.

393-3 Twentieth Century Military History. An introduction to the problem of armed conflict throughout history with particular emphasis on the twentieth century and the transformation of warfare during the era of the World Wars. Prerequisite: sophomore standing or consent of instructor. Elective Pass/Fail.

395-3 Honors. Great ideas and works of history, with discussion of conflicting interpretations of major historical problems. Prerequisite: junior standing and consent of department.

396-2 to 8 Independent Study in Classics Program. (See Classics 496.)

413-3 European Rural Society, 400-1100 A.D. (See Sociology 413.)

414-3 European Urban Society, 1000-1550 A.D. (See Sociology 414.)

417-4 Cultural History of the Middle Ages. Selected problems in the development of mediaeval culture, the mediaeval universities, and the transmission of ancient ideas to the modern world. Elective Pass/Fail.

418-3 Renaissance. The focus is on the Renaissance in Italy and in particular on its relation to the social and economic context in which it developed. The spread of humanism and humanistic values to other areas of Europe will also be considered. Elective Pass/Fail.

420-3 Reformation. Concentrates on the movement of religious reforms in the 16th Century. Emphasis on its roots in the past, particularly in earlier expressions of popular piety and to the wider social and political effects in the 16th and 17th centuries. Elective Pass/Fail.

421-6 (3, 3) Absolutism and Revolution: Europe 1600-1815. (a) 1600-1715; (b) 1715-1815. The development of enlightened despotism, the rise of the revolutionary movement, and the Napoleonic period. Elective Pass/Fail.

422-6 (3, 3) Intellectual History of Modern Europe. (a) 1600-1815; (b) Since 1815. The first semester will cover the Age of Reason, the Enlightenment, and Early 19th Century Romanticism. The second semester will cover the period from Marx and Darwin to the Contemporary World. Elective Pass/Fail.

423-3 Diplomatic History of Modern Europe. A study of the European state system and the diplomacy of the major powers, with emphasis on events since 1870.

424-6 (3, 3) Social and Revolutionary Movements in Nineteenth Century Europe. (a) 1815-1871; (b) 1871-1914. Changing social and political structure of Europe caused by the impact of industrialization and the French Revolution. The consequences of these developments in terms of the emergence of new social forces and the development of movements for social and political revolution. Elective Pass/Fail.

425-6 (3, 3) Twentieth Century Europe. (a) World War I to World War II; (b) World War II and after. Problems in the political, social and military history of Europe in the 20th Century.

430-3 The British Empire-Commonwealth. The rise of the British Empire and its subsequent development into a commonwealth of self-governing nations.

431-3 British Constitutional History. The development of the English constitutional system from its origins to modern times. Elective Pass/Fail.

432-4 History of France. Social, economic, political, and intellectual evolution from mediaeval origins to the present day. French contributions to western culture. Elective Pass/Fail.

433-3 History of Germany. German state and society from the Middle Ages to the present day. Elective Pass/Fail.

434-3 History of Scandinavia. Denmark, Norway, Sweden, Finland, and Iceland. Related history of the Baltic and North Sea regions, from prehistoric times to the present. Elective Pass/Fail.

435-3 History of Modern Italy. Italy in the 19th and 20th centuries. Emphasis is on continuing problems: the tensions between agricultural south and industrial north, Italy's role as a Great Power, and the persistence of centrifugal forces in Italian politics. Elective Pass/Fail.

436-6 (3, 3) History of Spain. (a) To 1700; (b) Since 1700. Institutional, intellectual, socio-economic, and political history from the Middle Ages to the present. Elective Pass/Fail for (b) only.

437-6 (3, 3) History of Russia. (a) Imperial Russia from Peter the Great to the emancipation of the serfs; (b) Russia since emancipation: modernization and revolution. The study of Russian history from Peter the Great to the present. Elective Pass/Fail.

440-3 Tudor-Stuart England. England from 1485 to 1714. The social, economic and political development of Britain during the crucial two centuries from late feudal anarchy to world power.

450-4 American Colonial History. The discovery, settlement, and development of the colonies before the American Revolution.

451-3 Jeffersonian and Jacksonian America, 1789-1850. Origin and development of democratic institutions and the emergence of sectional conflict in the pre-Civil War Era. Elective Pass/Fail.

- 452-6 (3, 3) United States History 1850-1896.** (a) Civil War era; (b) the origins of modern America; reconstruction and nationalization: 1865-1896. The study of the background to the Civil War, the Civil War, Reconstruction, and the Gilded Age.
- 453-6 (3, 3) Twentieth Century American History.** (a) 1896-1921; (b) 1921-1945. The history of the United States since the 1890's with emphasis upon politics, political ideas and diplomacy.
- 460-6 (3, 3) Social and Intellectual History of the United States.** (a) To 1860; (b) since 1860. The development of American society and a study of the various types of economic, social, and political thought that have influenced it.
- 461-6 (3, 3) Constitutional History of the United States.** (a) To 1877; (b) from 1877. Origin and development of the American Constitution from the English background to the present time. Stress is placed on the political, social, and economic forces which influenced the American constitutional system. Elective Pass/Fail.
- 462-4 Problems in Black American History.** Developments which formed the foundation for the "Black Revolution" of the present time.
- 463-6 (3, 3) History of American Diplomacy.** (a) To 1914; (b) Since 1914. General consideration of American foreign policy and the emergence of the United States as world power. Elective Pass/Fail.
- 464-6 (3, 3) American Economic History.** (a) To 1869; (b) Since 1869. The growth of the American economy from the colonial period to the present. Emphasis is placed on the historical forces which influenced the American economic system.
- 465-6 (3, 3) History of the South.** (a) The Old South; (b) The New South. Social, economic, political, and cultural developments of the South.
- 466-6 (3, 3) History of the American West.** (a) Trans-Appalachian Frontier; (b) Trans-Mississippi Frontier. The American frontier and its impact on American society from the colonial period to the 20th century.
- 470-3 Colonial Latin America: Policies and Practices.** Theory and operation of the Spanish and Portuguese colonial systems in the New World. Elective Pass/Fail.
- 471-6 (3, 3) History of Mexico.** (a) 19th Century; (b) Revolutionary Mexico. Significant political, economic, diplomatic, social, and cultural aspects of Mexican life from independence to the present time with emphasis upon the Mexican Revolutions. Elective Pass/Fail.
- 472-3 The Caribbean Area.** A history of the Caribbean from Columbus to Castro. Elective Pass/Fail.
- 473-3 Argentina and Chile.** A narrative and comparative history of these two leading Latin American nations with emphasis on the period since independence. Elective Pass/Fail.
- 474-3 Andean South America.** The political, economic, social and cultural development of the Andean nations from pre-Columbian times to the present. Elective Pass/Fail.
- 475-3 History of Brazil.** The political, social, cultural and economic development of Latin America's largest nation. Elective Pass/Fail.
- 476-3 Dictatorships in Latin America.** A political, economic, social and military study of the domestic and international aspects of dictatorship. Elective Pass/Fail.
- 480-6 (3, 3) History of Chinese Civilization.** (a) Traditional China; (b) Modern China. The first semester provides a full coverage of traditional China and places emphasis on classical philosophies, religions, historical writings, literature, arts and science. The second semester deals with the transformation of China into the modern ages. Elective Pass/Fail.
- 484-3 History of Inner-Asian Relations.** Tribes, migrations, wars, and power politics in Central Asia and outlying areas of China from Han times through 19th century rivalries to latest developments along the Sino-Soviet frontier. Elective Pass/Fail.
- 485-3 History of the Middle East.** A study of the Middle East from the 7th through the 16th centuries concentrating on the following major themes: the development of Islamic civilization, the mediaeval Muslim world, the disintegration of the Arab caliphate, the rise of the Ottoman Turks, and the development of the Ottoman Empire.
- 490-1 to 4 Special Readings in History.** Supervised readings for students with sufficient background. Prerequisite: registration by special permission only.
- 491-3 Historiography.** Writings of historians from Herodotus to Toynbee. Elective Pass/Fail.
- 492-4 Historical Research and Writing.** Methods of historical investigation, criticism and composition. Open not only to history majors but with permission of instructor to those in other disciplines interested in history as a research tool.
- 493-1 to 6 Problems in History.** Topics vary with instructor. May be repeated for a maximum of six semester hours provided registrations cover different topics. Topics announced in advance.
- 494-3 Quantitative Research in History.** An introduction to the application of quantitative data and social science methods to historical research.
- 495-4 History Honors.** Principles of historical method, research, and writing for senior honor students only. Not for graduate credit. Prerequisite: consent of department.
- 496-1 to 12 Internship in History.** Supervised field work in public or private agencies or operation where history majors are frequently employed, such as archives and libraries, government offices, communications media, historic sites, and museums. Only three hours may be applied to the major and nine hours toward graduate work. Prerequisite: consent of department.

497-3 Historical Museums, Sites, Restorations and Archives. The historical development of the museum from the Academy, the Lyceum, and the Great Museum of Alexandria. Discussion of the museums that have developed in the last three centuries with emphasis on the United States will include historical sites such as battlefields, forts, historic buildings, restorations, historical monuments, and major archives. Field trips to some of these sites form part of the course.

498-3 Problems of the History Museum. Examines the general background and function of the museum in its contemporary setting with special emphasis on tasks of the individual who wishes to work in a historical museum or in an interpretative center. Given in cooperation with the University Museum. Prerequisite: consent of instructor.

515-3 to 6 (3, 3) Studies in Mediaeval and Renaissance History.

516-4 to 8 (4, 4) Seminar in Mediaeval and Renaissance History.

520-3 to 6 (3, 3) Studies in Early Modern European History.

521-4 to 8 (4, 4) Seminar in Early Modern European History.

522-3 to 6 (3, 3) Studies in Modern European History.

523-4 to 8 (4, 4) Seminar in Modern European History.

530-4 Seminar in English History.

550-4 Seminar in American Colonial History.

551-4 The Age of Jefferson.

552-4 Reform Movements in the Pre-Civil War Period.

553-4 Seminar in Twentieth Century United States History.

554-4 New Viewpoints in American History.

555-4 to 8 (4, 4) Seminar in American History.

561-4 Seminar in American Constitutional History.

563-4 Seminar in American Diplomatic History.

566-4 Seminar in American Frontier History.

567-4 Seminar in Illinois History.

570-4 to 8 (4, 4) Seminar in Latin American History.

580-4 Seminar in Modern China.

590-1 to 8 (1 to 3 per semester) Readings in History.

591-2 to 5 Independent Investigation.

593-4 Seminar in Contemporary History.

599-1 to 6 Thesis.

600-1 to 30 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Home Economics Education

(SEE VOCATIONAL EDUCATION STUDIES)

Human Development (Division, Courses)

Courses

400-1 Orientation Seminar in Human Development. Includes a discussion of programs, information, and research presented by faculty and students. Introduction to library facilities.

481-2 to 6 Readings. Supervised readings on selected topics in the area of concentration. (a) Child and family; (b) Family economics and management; (c) Food and nutrition. Prerequisite: consent of instructor.

500-2 Research Methods.

501-3 Human Development Through Life Cycle.

502-3 Professional Services for Diverse Family Structures.

503-3 Impact of Public Intervention on Family Life.

515-1 to 3 Seminar.

572-1 to 5 Special Problems.

593-1 to 3 Research Paper or Project.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Human Resources (College, Courses)

Courses

201-3 Introduction to Human Services Management. Provides an introduction to the admin-

istration and management of human services organizations. Examines the direction/supervision of non-profit human services.

258-1 to 30 Work Experience Credit. Credit for work experience relevant to the particular departmental programs: prior to entrance into the University; work experience incorporated into instructional programs through internship; cooperative work experience programs between the department and the Office of Student Work and Financial Assistance. Credit hours to be granted to be determined by the division director.

259-1 to 24 Occupational Education Credit. Credit for educational experiences in technical schools and institutes, junior college technical and occupational programs and employee training relevant to the particular departmental programs. Credit hours granted to be determined by the division director.

301-3 Human Services Program Management. Provides a multi-disciplinary approach to cases/problems in human services administration/management.

305-1 to 4 College of Human Resources Honors Seminar. Readings and group discussions in areas of current interest. Prerequisite: junior standing, GPA of 3.0 overall.

387-1 to 6 College of Human Resources Special Problems-Honors. Directed study in specialized problems associated with human resources. Prerequisite: junior standing. GPA of 3.0 overall.

Industrial Technology (Major, Courses)

The industrial technology major has as its objective the training of qualified personnel who can develop and direct the manufacture and distribution of products.

The program is a balanced curriculum of studies drawn from a variety of disciplines relating to industry. Included in the curriculum is the study of materials and manufacturing processes, principles of distribution, and concepts of industrial management and human relations. Communication skills, humanities, and social sciences are studied to develop overall abilities. Knowledge of physical sciences, mathematics, design, and technical skills gained from the program allow the graduate to cope with technical and production problems.

The industrial technology curriculum is flexible enough to provide the means whereby graduates of two-year occupational programs may obtain a Bachelor of Science degree within two years. A graduate of a two-year industrially-oriented occupational program, such as aviation, architecture, automotive, construction, drafting, data processing, electrical, machine tool, mechanical, mid-management, mining supervision, and welding may have an excellent preparation to pursue a Bachelor of Science degree with a major in industrial technology.

Students with work related experience may receive credit toward the degree via Industrial Technology 258.

Additional flexibility in earning credit toward the degree is provided through off-campus courses and cooperative work experience. Cooperative work experience is available to students who qualify with provision that meaningful employment is available in the participating industries.

Off-campus courses for students in the industrial technology program are offered in geographical locations with a high population density whenever it is apparent that there is a need and potential enrollment to justify scheduling a class, it is possible to obtain a faculty member to teach the class, and adequate laboratory and library facilities are available.

A capstone option may be available in the industrial technology major. The option is explained in Chapter 3 of this bulletin. The program is available to students holding associate degrees of at least 60 semester hours in non-baccalaureate-oriented programs or equivalent certification with a minimum grade point average of 2.25. For the industrial technology major, the associate degree or equivalent certification should be in an industry-related field. This option permits qualified students to fulfill their degree requirements by completing 60 semester hours of work approved by the capstone adviser. Each individual's program of study may differ according to the previous academic work, industrial experience, and future career plans.

The industrial technology program is accredited by the National Association of Industrial Technology.

Bachelor of Science Degree, College of Engineering and Technology

INDUSTRIAL TECHNOLOGY MAJOR

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Industrial Technology</i>	75
Physics 203a, b; 253a, b	(6) + 2
GSD 118.....	(2)
Mathematics 111	(4) + 1
Engineering 222.....	2
Psychology 320 or Administrative Sciences 301 or Administrative Sciences 385.....	3
Engineering Technology 103, 104, 244, 245a	12
Industrial Technology 307, 309, 310, 340, 358, 365, 375, 382, 390, 425, 440, 465.....	38
Technical electives.....	17
Groups of electives selected from the areas of manufacturing, techni- cal sales, supervision, industrial design, industrial safety, and other technical fields.	
<i>Total</i>	120

INDUSTRIAL TECHNOLOGY MAJOR — OCCUPATIONAL ALTERNATIVE SPECIALIZATION

For students from two-year industry-related occupational programs in a community college or technical institute. Also, students with related work experience may receive credit and qualify for this alternative.

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Industrial Technology</i>	75
Physics 203a, b; 253a, b	(6) + 2
GSD 118.....	(2)
Mathematics 111	(4) + 1
Engineering 222 or Industrial Technology 270.....	2-3
Industrial Technology 105, 307, 308, 340, 358, 365, 375, 382, 390, 440, 465.....	33
Technical electives	36-37
<i>Total</i>	120

INDUSTRIAL TECHNOLOGY MAJOR — MINING TECHNOLOGY SPECIALIZATION

The course requirements for the mining technology specialization are specifically planned to complement the mining technology background of the community college or technical institute associate degree graduate.

In preparing the subject matter for the mining courses every effort has been made to include topics proposed by local mining companies. The main thrust of the overall program is directed toward increased coal production.

Topics included in the course work center around mining methods, mine management studies, quality control, production control, government regulations, safety, productivity-increase methods, current mining problems, mine surveying, geology, mathematics, social sciences, humanities, English composition, technical writing and the physical sciences.

<i>General Studies Requirements</i>	45
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<i>Requirements for Major in Industrial Technology</i>	75
Geology 220	(3)
Physics 203a, b; 253a, b	(6)+2
GSD 118	(2)
Mathematics 111	(4)+1
Engineering 222	2
Industrial Technology 105, 307, 320, 330, 360, 365, 375, 382, 420, 439, 441, 460	36
Technical electives	34
<i>Total</i>	120

Courses

Safety glasses, a suitable calculator, and textbooks are required for most of the following courses.

105-3 Technical Sketching. Basic principles of technical sketching including freehand sketching techniques, lettering, orthographic projection, pictorial sketching, auxiliary views, sectional views, dimensioning, tolerancing, fasteners, working drawing interpretation, and computer-aided drafting.

210-2 Microprocessor Calculating Techniques. Study and utilization of various microprocessor calculating techniques. Emphasis will be placed on the use of mini-computers.

219-3 Introduction to Mining Technology. Provides an introduction to mining systems and methods; basic concepts of electricity, hydraulics, mechanics, and gas control involved in mining.

240-3 First-Line Supervision. Analysis of problems of first-line supervisors. Topics include leadership, motivation, communication, grievances, training, discipline, group and individual effectiveness, and labor relations.

258-2 to 30 Work Experience Credit. Credit granted for past work experience while employed in fields related to the student's educational objective. Credit is established by departmental evaluation.

259-2 to 60 Occupational Credit. For occupational credit earned at junior colleges and technical institutes. Credit is established by departmental evaluation.

270-3 Computational Methods for Industrial Technologists. Introduces the student to a problem-oriented computer language that is used to solve relevant problems that occur in industry. Prerequisite: 210.

307-3 Analytical Problems in Technology. Methods of formulation and solution of special problems encountered in industry and technology using advanced techniques. Prerequisite: Mathematics 111 or equivalent.

308-3 Fundamentals of Industrial Processes. Introduction to the basic processes, equipment, and materials used in industry. Includes plastics, metal removal, casting, metal forming, and materials joining. Credit is not given if the student has credit for both 309 and 310.

309-4 Industrial Processes I. A comprehensive study of plastic processes, resins, equipment, and materials. Study of metal removal processes emphasizing economics, cutting theory, and non-traditional methods. Laboratory.

310-4 Industrial Processes II. Comprehensive study of metal casting, processes, testing instruments, and production equipment. Analysis of metal forming processes with emphasis on the newer techniques of explosive, ultrasonic, and powder metallurgy. Study of metal joining techniques. Laboratory.

318-3 Municipal Hydraulics. A study of the field of applied hydraulics as related to municipal water systems. Emphasis will be placed on the construction of systems to supply adequate volumes for fire flow requirements.

319-2 to 30 Industrial Internship. Industrial experience includes job skills, manufacturing processes, technical information, and labor-management relationships with supervised instruction, conferences, and examinations. Prerequisite: consent of instructor.

320-3 Surface Mining Operations. The elements of surface mining, methods and equipment, surface mine terminology, pit development, and equipment selection. Field trips. Prerequisite: appropriate background.

330-1 Current Mining Problems. Guest lecturers provide timely information on current mining technology problems. Special investigations of mining techniques. Emphasis on state and federal regulations.

335-3 Metallurgy and Heat Treatment. Analysis of metal structures and principles and processes of heat treatment. Laboratory. Prerequisite: Mathematics 111.

340-3 Computer-Aided Manufacturing. Introduction to the use of computers in the manufacture of products. Includes the study of direct and computer numerical control, part processing, and industrial robots. Prerequisite: 270 or Engineering 222 and 308 or equivalent.

- 341-3 Maintenance.** Principles and practices of maintenance department organization, preventative procedures, and typical equipment problems. Also, includes related topics such as plant protection, custodial services, and maintenance of power plants.
- 342-3 Industrial Finishing.** Methods and equipment of industrial coating and surface treatment processes, with emphasis in process selection for economy and function. Prerequisite: 308.
- 351-3 Industrial Metrology.** Error analysis. Measurement standards and inspection systems.
- 354-3 Plastics Technology.** Advanced study of plastic processes concentrating on test methods, material selection, and an in-depth study of an assigned plastic process. Laboratory.
- 358-3 Materials Handling and Plant Layout.** Methods and equipment of materials handling. Plant layout techniques. Students are assigned a plant layout project. Prerequisite: 382 or Administrative Science 318, or consent of instructor.
- 360-3 Mine Production.** A study of mining methods, production, techniques and automated process control. Flow sheets. Production economics. Mine management studies. Government regulations. Prerequisite: appropriate background.
- 362-3 Industrial Packaging.** Analysis of packing principles, equipment, and processes such as paper, glass, metal containers, and plastics.
- 365-3 Quality Control.** Analysis of control charts, acceptance sampling procedures, inspection systems, reliability and quality experiments.
- 369-3 Industrial Design.** Introduction to the basic design concepts including design process developments, design phases, and communications. Emphasis on factors influencing design, design analysis, and creative thinking.
- 375-3 Production and Inventory Control.** Production and inventory control systems with emphasis on cost analysis. Applicable operations research techniques.
- 379-3 Machine and Tool Design.** Emphasis on metal processing equipment design. Prerequisite: 369 recommended.
- 382-3 Motion and Time Study.** Principles and practices of motion and time study including process charts, operation charts, motion summary, and time standards.
- 385-3 Purchasing.** Provides a comprehensive knowledge of modern procurement practices and policies. It combines analysis of the fundamental purchasing principles with analytical descriptions of the latest developments and techniques.
- 390-3 Cost Estimating.** (Same as Engineering Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.
- 395-3 Technology Design.** An elective project on a technical subject selected by the student with advice from the instructor. Stimulates original thought and creativity. Prerequisite: consent of instructor.
- 420-3 Coal Analysis and Inspection.** A study of methods and equipment for the inspection and analysis of coal including the techniques for the design of coal-quality experiments. Laboratory. Prerequisite: 365 or appropriate background.
- 425-3 Advanced Process Design and Control.** Extension of other process courses offered. Meets the need of those students who enter the field of manufacturing by giving more emphasis on planning, estimating, and control of industrial processes. Laboratory. Prerequisite: 309, 310.
- 439-3 Bulk Materials Handling.** Study of the various types of equipment used in the mining industry. Estimation of costs and output of equipment used for excavating and transporting earth materials. Prerequisite: appropriate background.
- 440-3 Manufacturing Policy.** Review of all areas covered by the industrial technology program. Includes problems for solution which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Prerequisite: 358, 365, 375, 382, or consent of instructor.
- 441-3 Mine-Safety Technology.** An in-depth study of the technological implications of the Federal Coal Mine Health and Safety Act. Emphasis is placed on the technology required to operate safely underground coal mines. Prerequisite: appropriate background.
- 450-3 Industrial Systems Analysis.** Teaches the systems required for successful industrial operations. The role of the computer in system design and application is emphasized.
- 460-5 Mining Technology.** Mining methods; mine ventilation and pumping systems; mine structures; power distribution; coal-mine development and exploitation. Prerequisite: 360 or appropriate background.
- 465-3 Industrial Safety.** Principles of industrial accident prevention; accident statistics and costs; appraising safety performance; recognizing industrial hazards and recommending safeguards. Includes a study of the Occupational Safety and Health Act and the Coal Mine Health and Safety Act. Prerequisite: senior standing.
- 466-3 Occupational Safety and Health Standards.** Covers the standards, inspection procedures, and compliance requirements covered in the latest revisions of the Occupational Safety and Health Act of 1970. Emphasis is placed on developing the student's ability to detect violations of the standards and recommend corrective safety actions.

492-1 to 6 Special Problems in Industry. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected industrial problems. Not for graduate credit. Prerequisite: consent of instructor.

494-1 to 12 (A-L-1 hour each) Applied Project. Selected applied project. Requires the students to apply knowledge learned in various courses to the solution of industrial problems. (a) Motion and time study, (b) cost estimating, (c) materials handling and plant layout, (d) production and inventory control, (e) quality control (f) manufacturing policy, (g) industrial systems analysis, (h) fundamentals of industrial processes, (i) industrial safety, (j) analytical problems in technology, (k) computer-aided manufacturing, (l) industrial metrology. Not for graduate credit. Prerequisite: consent of instructor.

Interior Design (Major, Courses)

The interior design program is a part of the Division of Comprehensive Planning and Design. Students take courses to fulfill the common core content areas in the Division of Comprehensive Planning and Design.

The interior design curriculum is planned to assist students in preparing to serve the interior design and architectural professions in the areas of public building, commercial, and residential planning. This includes spatial concepts, interior systems, office landscape, traffic and communication, and human factors. An in-depth understanding of the relevancy of the curriculum to the profession is given the students through lectures and critiques by visiting interior designers, architects, and adjunct professors.

Employment opportunities exist in interior design studios and architectural firms; in major corporations as in-house planners and designers; as interior decorators; and in various retail organizations and furnishing manufacturers.

The Interior Design program is accredited by the Foundation for Interior Design Education Research.

The Division of Comprehensive Planning and Design provides the faculty, studios, and as many other facilities as possible, but all other costs including supplies, equipment, and required field trips that are necessary to the successful completion of the program are borne by the student. Interior design education is relatively expensive, and because of the individual nature of the creative laboratory work, it is impossible to predict the exact cost for each student. A reasonable estimate of initial cost would be \$150 for equipment, supplies, and books. Much of this equipment is non-expendable but there will be additional supply costs for other courses in the program.

Bachelor of Science Degree, College of Human Resources

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Interior Design</i>	75
Comprehensive Planning and Design Core Requirements	
GSC 205, Comprehensive Planning and Design 306, 406a, b	(3) ¹ +6
School of Technical Careers 215a, b	6
Art 200, 207.....	6
Clothing and Textiles 104.....	2
Interior Design 231, 332a, b, 350, 381, 382, 383,	
384, 390, 391a, b, c, 393, 394, 470, 491	49
Electives.....	6
Recommended electives: GSC 101, Administrative	
Sciences 170, Finance 271, Journalism 340, Cinema and	
Photography 320, Interior Design 331, 371, Theater 207	
<i>Total</i>	120

¹GSC 205 also meets a requirement in General Studies.

Courses

131-4 Introduction to Design, Home Furnishings and Interiors. Analysis of the visual environment, principles and elements of design and their relation to selection and arrangement of furniture and use of various media in design of residential interiors. Not open to interior design majors. Lecture and laboratory. Elective Pass/Fail.

231-3 Introduction to Interior Design. Introduction to principles of two- and three-dimensional design through the application of purposeful experiments with emphasis on functional uses of form and their relationship in space. Various media, application and viewpoints are used. To be taken concurrently with School of Technical Careers 215a. Lecture and Laboratory.

331-3 Textile Design. Study of textile design and hand printing methods in textile production including block print, silk screen, batik, and tie dye. Simple weaving techniques. Lecture and laboratory. Prerequisite: 131, or 231, or consent of instructor. Elective Pass/Fail.

332-6 (3, 3) Construction Methods and Materials for Interior Designers. Study of construction methods and materials of buildings and standard graphic methods of presentation for interior designers. (a) Residential (b) small commercial. Lecture and laboratory. Prerequisite: 231 or consent of chairperson.

350-3 Basic Materials. A study of construction and finishing materials other than those of a structural nature including production methods, limitations, quality control, application, and uses. Lecture. Prerequisite: concurrent enrollment in 332 or consent of chairperson.

371-4 Professional Internship. Supervised internship in interior design providing professional development of the intern through actual working conditions. Prerequisite: interior design majors within four semesters of graduation and consent of chairperson. Mandatory Pass/Fail.

381-2 History of Interior Design through the 19th Century. Furnishings and interiors from antiquity to the late 19th Century. Lecture.

382-2 History of 20th Century Interior Design. History of interiors, furnishings, and designers from the late 19th century to the present. A study of the relationship between the design of contemporary interiors and architecture and architects. Lecture.

383-2 Design and Fabrication of Furniture. Anthropometrics and systems analysis as related to the design, construction, and production of furniture. Includes working drawings and models. Lecture/laboratory. Recommended to be taken concurrently with 382. Prerequisite: School of Technical Careers 215b or Architectural Technology 111 or consent of chairperson.

384-3 Systems in Architectural Interiors. Technical survey of mechanical equipment in buildings with emphasis on lighting and illumination design. Consideration will also be given to environmental comfort, acoustics, sanitation, and code requirements. Lecture. Prerequisite: 332a.

390-3 Design Presentation and Delineation. Methods, materials, and media are explored to find the most satisfactory way to present interior design to clients, including creation of three-dimensional delineation of interior designs in varied media. Lecture and laboratory. Prerequisite: 231 and School of Technical Careers 215b.

391-12 (4, 4, 4) Intermediate Interior Design. Interior design of total environment concepts integrating interior and architectural functions through increasingly complex projects. (a) Residential. Prerequisite: 390 and concurrent enrollment in 332a. (b) Restaurant and commercial. (c) Office and public building planning. Prerequisite for 391b or c: 391a and concurrent enrollment in 332b or consent of chairperson.

393-3 Architectural Analysis for Interior Designers. A study of architectural components as they relate to the proximate interior environment. Includes architectural planning of interior and exterior elements. Prerequisite: 332b and 390 or consent of chairperson.

394-3 Contract Interior Design and Professional Practice. Residential and contract interiors and business principles of interior design, including systems, forms, and logistics of money and materials. Lecture and laboratory. Prerequisite: 391b or c or consent of chairperson.

470-3 Interior Design Seminar. Development of systematic approach involving systems analysis, human factors engineering, environmental variables. Prerequisite: eight hours in interior design or consent of chairperson.

491-4 Advanced Interior Design. Systematic analysis of human factors as determinants of design solutions for large-scale interiors. Lecture and laboratory. Prerequisite: 391c, 394 or consent of chairperson.

Journalism (School, Major, Courses)

The School of Journalism prepares academically sound, technically proficient, capable, and responsible graduates for professional journalistic careers. These careers, depending upon the level and direction of studies, may be found in news-editorial and advertising positions on newspapers, magazines, cable communica-

tions systems, and other news media; in other advertising careers; and in public relations, media management, photojournalism, teaching, and research.

Two specializations, news-editorial and advertising, are accredited by the American Council on Education for Journalism, the agency approved by the U.S. Department of Health, Education and Welfare to accredit in journalism education. Early in the junior year the student must decide upon a specialization, either of which provides a number of electives which permit the student to explore other areas in journalism.

ADVERTISING SPECIALIZATION

Students electing the advertising specialization develop their abilities to analyze problems and identify the roles advertising and other communications can play in solving them; develop tools of planning, executing, and controlling advertising campaigns; and develop skills in the use of language and other message forms for specific purposes. A core of courses totaling 21 hours is required of all students, leaving 9 to 13 hours for work in one or more of the nine areas of interest mentioned in the following paragraph. This program helps prepare students to enter a wide variety of positions with advertising agencies, in the media, and related fields.

NEWS-EDITORIAL SPECIALIZATION

Students who elect the news-editorial specialization gain thorough professional training in both theory and practice in a number of related fields. These include daily and weekly newspapers, magazines, telecommunications, media management, photojournalism, public relations, research, and teaching. A core of courses totaling 24 semester hours is required of all students, leaving 6 to 10 hours for work in one or more of these nine areas of interest.

Bachelor of Science Degree, College of Communications and Fine Arts

The academic requirements for the Bachelor of Science degree in journalism include 30 to 34 hours in journalism as approved by the School of Journalism and 26 to 30 hours in junior-senior level class work in the College of Liberal Arts, the College of Science, or other areas approved by the faculty.

Students will also complete a 15-hour minor in an area approved by the School of Journalism. The minor must be declared by the time the student has accrued 90 semester hours. Students who select a minor within the College of Liberal Arts may include those hours in their 26-30 senior level hours.

<i>General Studies Requirements</i>	45
<i>Requirements for a Major in Journalism</i>	30-34
Journalism 300, 310, 370	9
Required for the Advertising Specialization: 372, 374, 476, 479	12
or	
Required for the News-Editorial Specialization: 311, 312, 442,	
and two of the following: 390, 391, 411	15
Journalism electives to complete 30-34 hours	
<i>Minor</i>	15
<i>Approved electives</i> (Must include Marketing 304 for	
Advertising Specialization)	26-30
<i>Total</i>	120

PHOTOJOURNALISM SPECIALIZATION

A photojournalism specialization, administered jointly by the School of Journalism and the Department of Cinema and Photography, prepares students to become photographer-reporters and photo editors and to work in related positions in the

mass media. Journalism majors enrolled in the specialization will be required to take the following courses: Journalism 300, 310, 311, 313, 370, 442 and either 312 or 315; Cinema and Photography 407 and 408; plus additional journalism hours for a total of 30-34.

Other Requirements

Journalism students must demonstrate a working knowledge of typewriting based upon a minimum rate of 30 words a minute. This proficiency must be demonstrated (by proof of a passing grade in a typing course or an examination given by the School of Journalism) before they register for Journalism 310. If they cannot meet this requirement, they must enroll in a typing course and receive a grade of *C* or better.

A student receiving a grade of *D* or lower in a journalism sequence course must repeat that course and receive a grade of *C* or better before advancing in that sequence.

Moderate fees will be assessed for supplies and materials in some courses.

Subject to the approval of the school's director, undergraduate students may receive as much as nine hours of journalism credit toward their degrees for courses not taken in residence.

Minor

A total of 15 hours of journalism courses constitutes a minor for nonjournalism majors.

Courses

300-3 Mass Media in Modern Society. Develops an awareness of the pervasive nature of the mass media in our society and an understanding of how the media operate, with emphasis on contemporary social and economic problems in the media.

310-3 Writing for the Mass Media. Study in the fundamentals of news writing, the techniques of news gathering and reporting, and the principles of editing with experience in the gathering, writing, rewriting, and editing of news copy. Prerequisite: typing speed of at least 30 words per minute.

311-3 Reporting and News Writing. Purposes and effects of different orientations to the information gathering and news writing processes; information sources, interviewing, writing, and editing practices; laboratory in reporting, writing, and editing for the news media. Prerequisite: 310 and satisfactory score on language skills examination.

312-3 Editing and Makeup. Principles of editing are combined with graphic concepts and techniques which interrelate printing processes, photography, writing of cutlines, picture page preparation, and page makeup, copyfitting, head schedules, newspaper organization, and the work flow on the ad and editorial sides. Prerequisite: 311.

313-3 Introduction to Photojournalism. Fundamentals of publications photography. Includes basic camera technique, black and white film and print processing methods, selection and display of photographs, and evaluation of pictorial communication effects. Student supplies own photographic materials and, where possible, an adjustable camera. Prerequisite: consent of department. Open only to journalism majors. Students are responsible for purchase of supplies not to exceed \$25.

315-3 Graphic Communication. History of printing and typographic development, modern reproduction processes, technological developments, selection and use of appropriate graphic images in communication, and production techniques for publications. Students are responsible for purchase of supplies not to exceed \$15.

340-3 Publicity Methods. Guidance and practice in writing for newspapers, magazines, and broadcast media about students' fields of specialization. Includes practical work as publicist for university and community groups. Non-majors only. Closed to students who have passed 310 or Radio-Television 310.

341-3 Public Relations. Current methods of planning and executing public relations policies, evaluating the media, and preparing campaigns. Promotional tools and press relations.

350-3 Community-Suburban Journalism. The small newspaper recognized as a distinct medium, performing a specialized function for its readers. Equal weight given to the problem of news presentation and to leadership with careful examination of news and editorial policies of representative newspapers. Prerequisite: 311.

351-3 Community Newspaper Management. Organization, operation, and policy of the revenue departments of the community and suburban weekly and small daily newspapers with

special attention to the circulation procedures, retail, general and classified advertising problems, and other phases of management. Prerequisite: 350.

360-3 Magazine Production and Design. The editorial and production functions of the magazine. Application of the principles of article and art layout to total editorial content. Printing production and selection of materials. A field trip is required. Cost should not exceed \$20.

370-3 Principles of Advertising. An introduction to the processes of advertising and their functions in a marketing-communications environment; includes research, media, and message elements of advertising campaigns, governmental regulations, and social and economic considerations.

372-3 Advertising Media and Management. Analysis of economic, social, and marketing factors and their use in developing advertising objectives and strategies. Examination of mass media systems as vehicles of advertising communication and the planning, buying, and scheduling of advertising media programs. Prerequisite: 370, Marketing 304.

374-3 Creating Advertising Messages. Examination and practice in the development of advertising message strategies and the writing and design of advertising messages for television, radio, newspaper, magazine, outdoor, direct mail, etc. Students are responsible for purchase of supplies not to exceed \$15. Prerequisite: 370.

390-3 Critical and Persuasive Writing. The roles and responsibilities of the editor, editorial writer, and opinion columnist with emphasis upon editorial writing and critical thinking. Editorial problems, methods, policies, style, and the fundamentals of persuasion and attitude change form the basis for study. Prerequisite: 311.

391-3 Feature Writing. Identification, research, and application of creative writing techniques with emphasis on newspaper articles. Analysis of reader appeal; study of feature story structure; development of style by practice in writing feature stories. Prerequisite: 311.

392-3 Reporting for Electronic Media. Researching, writing, and producing local news and public affairs presentation for CATV systems. Prerequisite: 310.

400-3 History of Journalism. Development of American newspapers, magazines and radio-television with emphasis on cultural, technological, and economic backgrounds of press development. Current press structures and policies will be placed in historical perspective.

401-3 International Communication. An analysis of the development, structure, functions, and current status of media systems in other countries. Emphasis given to studying factors that facilitate or restrict the flow of intranational and international communication.

405-3 Introduction to Mass Communication Research. Overview of communication research methods including practical training in interpretation and presentation of social science data. Introduction to survey research methods, experimental design, and use of computers for analysis of data. Presentation of data in journalistic forms and social science reports. Prerequisite: 310 or equivalent or consent of instructor.

411-3 Public Affairs Reporting. Covering government and other public agencies, including the city hall, courts, county offices, business, finance, agriculture, labor, and other specialized beats. One field trip is required. Cost should not exceed \$20. Prerequisite: 311.

413-3 Picture Editing. Introduction to the need for and function of picture editors for newspapers and magazines. Practical experience in picture selection, cropping, sizing, caption writing, and layout design. Legal and ethical considerations. Assignment procedures for photographers and other illustrators. Library systems for negatives, prints, and other illustrations. Prerequisite: senior standing.

420-3 School Publications. Designed for the prospective high school or junior college journalism teacher or publication director. Deals with practical production problems of school newspapers and yearbooks.

442-3 The Law of Journalism. Legal limitations and privileges affecting the mass media to include the law of libel, development of obscenity law, free press and fair trial, contempt of court, right of privacy, advertising and antitrust regulations, copyright, and access to the press. Prerequisite: senior standing.

450-3 Mass Media Management. Basic economic and management theory and application of theory to the management process in the mass media. Individual projects involving analysis of management of a selected medium. Prerequisite: consent of instructor.

451-3 Current Media Problems. Readings and weekly seminar discussions on the role of the journalist in seeking solutions to the problems facing the mass media in the last third of the Twentieth Century. Involves questions of economics, structure, ethics, effects.

452-3 Ethics and News Media. An exploration of ethical problems confronting journalists and an evaluation of how these problems are handled by the media through a focus on current examples. The implications to the media and to society of successes and failures in meeting ethical concerns are discussed. Prerequisite: senior standing.

461-3 Specialized Publications. Functions, operations, and problems of industrial, trade, business, professional, literary, and other specialized publications. Management, personnel, and production practices. Use of research in solving problems and setting policies.

462-3 Magazine Article Writing. Principles, problems, and techniques involved in producing free-lance and staff-written magazine articles with an emphasis on determining the relationship between article content and audience market. Prerequisite: 311.

476-3 Advertising Campaigns. Application of advertising principles and techniques to the

- solution of a specific advertising problem facing a cooperating advertiser or advertising agency; problem analysis, development of strategy, media planning, message development, campaign presentation. One field trip is required for a campaign presentation. Cost should not exceed \$20. Prerequisite: 372 and 374.
- 479-3 **Social Issues and Advertising.** Analysis of social issues involving advertising; economic relationships, government and self-regulation, cultural effects, influence on media content and structure, role in democratic processes, international, and other problems and controversies. Prerequisite: senior standing.
- 490-1 to 6 (1 to 3, 1 to 3, 1 to 3) **Readings.** Supervised readings on subject matter not covered in regularly scheduled courses. Undergraduates limited to maximum 2 credits per semester. Prerequisite: written consent of instructor and area head.
- 494-1 to 3 **Practicum.** Study, observation, and participation in publication or broadcast activities. Prerequisite: consent of instructor and area head.
- 495-1 to 12 (1 to 6, 1 to 6) **Proseminar.** Selected seminars investigating media problems or other subjects of topical importance to advanced journalism majors. Seminars will be offered as the need and the interest of students demand. Prerequisite: senior standing.
- 500-3 **Research Methodology in Mass Communication I.**
- 501-3 **Research Methodology in Mass Communication II.**
- 504-3 **Foundations of Mass Communication Theory.**
- 505-3 **Theoretical Issues in Mass Communication.**
- 506-3 **Significant Studies in Mass Communication Research.**
- 510-3 **Literature of Journalism.**
- 511-3 **Studies in Journalism History.**
- 512-3 **Press Freedom and Censorship.**
- 520-3 **Communication and National Development.**
- 530-3 **Historical Research in the Mass Media.**
- 540-3 **Legal and Governmental Research in the Mass Media.**
- 550-1 to 12 (1 to 4, 1 to 4, 1 to 4) **Topical Seminar.**
- 560-3 **Seminar: Critical and Persuasive Writing.**
- 592-1 to 6 (1 to 3, 1 to 3, 1 to 3) **Individual Research.**
- 599-1 to 6 **Thesis.**
- 600-1 to 32 **Dissertation.**
- 601-1 to 12 per semester **Continuing Research.**

Language Arts (English and Reading) (Major)

(SEE CURRICULUM, INSTRUCTION, AND MEDIA)

Latin American Studies (Major)

Southern Illinois University at Carbondale traditionally has had a strong interest in Latin America. An unusually large number of faculty specialists offer many courses related to that region and Morris Library contains an outstanding collection of Latin American materials. The University initiated its Latin American Studies Program in 1958 to prepare students for careers in business, education, and government and to serve others who desired more information about the nations south of the United States. An interdisciplinary program, it includes training in language, the social sciences, and humanities. Beyond the minimum core of courses required for the major, maximum flexibility is provided to tailor the curriculum to the needs and interests of the individual student.

Latin American studies majors also complete a minor or other approved coherent program (usually 15 to 18 hours) in a standard discipline or career specialty.

The College of Liberal Arts grants the Bachelor of Arts degree with a major in Latin American studies. The Latin American Studies Advisory Committee supervises the program. Interested students should consult the adviser for the Latin American studies major.

Bachelor of Arts Degree, College of Liberal Arts

<i>Supplementary College Requirements (See page 72.)</i>	4-10
<i>Requirements for Major in Latin American Studies</i>	36
Required Core Curriculum	21
History 370a, b; Political Science 366; Anthropology 470e;	
Spanish 201a, b and 306	
Latin American Electives	15
Students may choose among 60 courses offered by thirteen	
departments to fulfill this requirement.	
<i>Minor</i>	15-18
<i>Electives</i>	11-20
<i>Total</i>	120

Law Enforcement (Program, Major)

(ALSO SEE CORRECTIONAL SERVICES)

Law enforcement today demands a wide range of knowledge and ability to meet the complexities of modern society. This program is designed both for the individual entering the profession and for persons already serving in law enforcement who wish to upgrade their skills.

Students in this program will not be taught "police skills" that are taught in a police academy, such as firearms or personal defense. They will learn methods of crime control, criminal behavior, methods of crime detection, community problems in law enforcement, criminal law, and police administration. They will develop an understanding of people and of interpersonal relationships.

The student will spend one term prior to graduation working under supervision with a police agency.

Police officers may enroll in the program on a part-time basis with the assurance that faculty members will help them to arrange classes compatibly with their duty schedules.

Full transfer of credit is guaranteed to students who have completed certificate programs in law enforcement at cooperating community colleges.

An advisory committee made up of persons active in law enforcement assists the program. Current members are: Capt. Raymond Niepert, commanding officer, Illinois State Police District 13, DuQuoin; W. Charles Grace, attorney at law, Murphysboro; Howard Hood, Jackson County State's Attorney, Murphysboro; Ed Hogan, Chief of Carbondale Police Department; and Don White, Jackson County Sheriff, Murphysboro.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in a combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Law Enforcement

GSB 202, 203, 212	11
GSD 101, 118, 153	8
Correctional Services/Law Enforcement 103, 105, 108, 115, 205,	
209, 210, 220, 221, 395	36
Electives	7

Total

62

Courses

(SEE CORRECTIONAL SERVICES/LAW ENFORCEMENT)

Liberal Arts (College, Courses)

Courses

105-3 Law in American Society. Faculty from the Departments of Economics, History, Philosophy, Political Science, Psychology, and Sociology consider the ways in which law affects American society. Topics such as students' rights, civil disobedience, crime, obscenity, and labor-management relations will be explored through lectures, discussion groups, guest speakers, and media presentations. Recommended for students who want to explore how the law works in society, and who want to consider possible careers in law. Elective Pass/Fail. **303-1 to 9 (1 to 3 per semester) Interdisciplinary Studies.** Offered in a variety of forms, including lectures, readings, research, or field study. Initiated by at least two faculty members from different departments. Approval by the dean is required during the semester prior to its offering. May be repeated to equal a total of nine credits. Elective Pass/Fail.

310-3 Values in the Living World — Life, Normalcy, and the Natural. Intended for students who are interested in examining individual and social values which pertain to those professions based upon the biological sciences; e.g., medicine, nursing, zoology, forestry, etc. Elective Pass/Fail.

311-3 Values in the Communication Arts. The aim of this course is to examine, by means of readings, films and guest lecturers, some value perspectives of contemporary American life. This will be done in terms of ethical-aesthetic ideals and actual practices to be encountered in the public's most accessible and influential media; i.e., cinema, radio, television, and journalism. Elective Pass/Fail.

312-3 Applied Values in Society. A consideration of value problems and dilemmas faced by individuals in social science-based professions such as counseling, social welfare, administration of justice, etc. Among the problems to be considered are agency or corporate loyalty vs. individual conscience; individual good vs. social good; and professional ethics vs. individual ethics. Elective Pass/Fail.

Linguistics (Department, Major, Course)

The objective of the undergraduate major in linguistics is to provide broad, general training in theoretical and applied linguistics. The major is designed to help students achieve an awareness of the language systems of the past, an appreciation of human modes of communication, a fundamental understanding of the ever-changing linguistic environment in which they live, and the processes by which language is acquired. Moreover, education in linguistic methods trains a student to think analytically, to evaluate hypotheses, and to propose new solutions. The analytical models of linguistics have, since the 1930's, been recognized by other disciplines (notably anthropology, psychology, and sociology) as significant research paradigms. Linguistic theory has also been enriched by insights and models from other disciplines. Students are encouraged to use their elective hours to explore the related areas of anthropology, computer science, English, foreign languages, mathematics, philosophy, psychology, sociology, speech communication, communication disorders and sciences, and statistics.

The major in linguistics consists of a minimum of 32 semester hours comprising: (1) 16-18 semester hours in a core of basic courses in general linguistics, 300 or 401, 301, 402a, 403 or 405, 408; and (2) various structured alternatives, dependent on whether the student is more interested in theoretical or applied linguistics. Students concentrating on theoretical linguistics are advised to take 9 semester hours of 415, 440, and either 430 or 450, plus 6 or 7 semester hours of departmental electives. Students concentrating on applied linguistics are advised to take 8 semester hours of 453, 454, 455, plus 8 semester hours of 456, 415, and 445.

There is a foreign language requirement, potentially overlapping the College of Liberal Arts requirements, as follows: (1) one year of an uncommon or non-Western language, or (2) two years of any foreign language. Students planning graduate study in linguistics should take three years of foreign language study.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72.)	(4) + 8-14
<i>Requirements for Major in Linguistics</i>	32
Linguistics 300 or 401, 301, 402a, 403 or 405, 408	16-18
Theoretical Linguistics Electives: Linguistics 415, 440, 430 or 450, plus departmental electives	15-16
or	
Applied Linguistics Electives: Linguistics 453, 454, 455, 456, 415, 445.....	16
<i>Foreign Language Requirements</i> (overlapping with college requirements)	10-16
<i>Electives</i>	13-25
<i>Total</i>	120

Minor

The Department of Linguistics offers two minors: one in linguistics and one in uncommon languages.

LINGUISTICS

The minor in linguistics (a minimum of 15 hours) draws upon the basic courses of the Department of Linguistics. It introduces the student to the structure of language, the historical development of languages, and the relation of language to the rest of culture. A minor in linguistics would be of special interest to students in anthropology, computer science, English, foreign languages and literatures, mathematics, philosophy, psychology, sociology, speech communication, and communication disorders and sciences.

Requirements for the minor in linguistics: (1) 300 or 401; (2) at least two courses (6-8 hours) from among the following: 301, 402a, 403, 405, 408; (3) additional courses from among the following to complete at least 15 hours: 402b, 402c, 404, 415, 430, 431, 440, 450, 453, 497.

UNCOMMON LANGUAGES

The minor in uncommon languages consists of a minimum of 15 hours at 200-level or above of an uncommon language offered by the Department of Linguistics. For specific languages, see course offerings.

Students interested in linguistics should also consider taking GSD 104 or GSB 330 to help satisfy the General Studies requirements.

Courses

100-6 (3, 3) Oral English for Foreign Students. Four class hours of oral English and one hour in-class composition. An elective of foreign students admitted to the University in a graduate or undergraduate program. Cannot substitute for Linguistics 101, 102, or 103, but may be taken concurrently. May be taken singly.

101-3 Basic English Composition for Foreign Students. Instruction in the basic methods of English composition, focusing on the particular problems of foreign students. Techniques of analyzing, summarizing, outlining, documenting, synthesizing, and revising. Basic English grammar relevant to composition problems of foreign students. Equivalent to GSD 101. Limited to foreign students selected by proficiency exam on entrance.

102-2 Expository Writing for Foreign Students. Principles of expository essay style; study and practice in various techniques of expository writing. Directed at the particular problems of foreign students. Advanced study of English grammatical structures. Equivalent of GSD 117. Limited to foreign students. Prerequisite: 101 or equivalent.

103-2 Technical Writing for Foreign Students. Principles of scientific and technical writing in English as a second language. Study and practice of the techniques of technical report writing. Directed at the particular problems of foreign students. Advanced study of grammat-

ical tools and organization required for technical prose. Equivalent to GSD 118. Limited to foreign students. Prerequisite: 101 or equivalent.

210-10 (5, 5) Elementary Uncommon Languages. Introduction to the basic skills of listening, speaking, reading, writing, and the fundamentals of grammar. Must be taken in sequence. (a-b) Arabic, (c-d) Hebrew, (e-f) Persian, (g-h) Vietnamese, (i-j) Lao, (k-l) Cambodian.

290-3 Advanced English Composition for Foreign Students. Designed for foreign graduate and undergraduate students who need further work in composition in English as a foreign language (EFL) beyond their entering TOEFL scores or successful completion of Linguistics 101 and either 102 or 103. Both group activities and individualized supervision will be provided. Prerequisite: 101 and either 102 or 103; or graduate status. Elective Pass/Fail.

300-3 Introduction to Descriptive Linguistics. An introductory survey of synchronic, descriptive linguistics: assumptions, methods, goals, terminology, and data manipulation. Elective Pass/Fail.

301-3 Introduction to Historical and Comparative Linguistics. An introductory survey of historical and comparative linguistics: assumptions, methods, goals, terminology, and data manipulation. Elective Pass/Fail.

321-3 Survey of Vietnamese Literature. Readings and analysis of selected works of Vietnamese literature from the beginning to the present time.

341-3 Introduction to Intercultural Communication. (See Speech Communication 341.)

401-4 General Linguistics. Basic concepts and methods of general linguistics. Fundamentals of the nature, structure, and functioning of language. Data manipulation and problem solving. Elective Pass/Fail.

402-7 (3, 3, 1) Phonetics. (a) Theory and practice of articulatory phonetics. (b) Theory and practice of instrumental phonetics. Prerequisite: 402a. (c) Transcription laboratory. Prerequisite: 402a. May be taken singly. Elective Pass/Fail.

403-3 English Phonology. Study of English phonology, both American and British, including phonetics, phonemics, and prosodics. Prerequisite: 300 or 401, and 402a, or consent of department. Elective Pass/Fail.

404-3 American Dialects. Regional variation and social stratification of American English. Phonological and syntactic differences among the major dialects of American English. Prerequisite: one previous course in linguistics. Elective Pass/Fail.

405-4 Phonological Theories. A survey of various phonological theories involving the phoneme from the 19th century up to the present, including theoretical issues arising therefrom and relationships among the theories. Limited data analysis within the perspective of the different theories. Prerequisite: 300 or 401, and 402a. Elective Pass/Fail.

408-4 Syntactic Theory. Basic concepts and formalisms of transformational generative grammar. Data manipulation and problem-solving in English syntax. Prerequisite: 300 or 401 and 430 or consent of department. Elective Pass/Fail.

410-10 (5, 5) Intermediate Uncommon Languages. Review of the structure of modern spoken language. Introduction to written language. Emphasis on conversational style. The first semester carries undergraduate credit only. (g-h) Vietnamese, (i-j) Lao, (k-l) Cambodian. Prerequisite: 210 or equivalent.

411-3 The Linguistic Structure of Chinese. (See Chinese 410.)

412-3 The Linguistic Structure of Japanese. (See Japanese 410.)

415-3 Sociolinguistics. History, methodology, and future prospects in the study of social dialectology, linguistic geography, multilingualism, languages in contact, pidgin and creole languages, and language planning. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.

420-8 (4, 4) Advanced Uncommon Languages. Advanced conversation and reading of third-year level materials in preparation for classes conducted in the language. (g-h) Vietnamese, (i-j) Lao, (k-l) Cambodian. Prerequisite: 410 or equivalent.

422-3 Contemporary Vietnamese Prose. Open to advanced students. Short stories, novels, and essays (main trends and evolution). Emphasis on works of prominent authors since 1920, such as Nguyen V. Vinh, Pham Quynh, H. N. Phach, Nguyen T. Thuat, P. K. Binh, Khai Hung, and the recent generation. Prerequisite: 321 and 410.

423-2 Vietnamese Poetry. Classical and modern poetry. Emphasis on masterpieces and leading figures such as Nguyen Trai, Nguyen Binh Khiem, the authors of Chinh Phy Ngam and Cung Oan, Nguyen Huy Tu, Nguyen Du and the Kim Van Kieu, Nguyen Cong Tru, and the new poetry with the impact foreign poetry had on it. Prerequisite: 321 and 410.

424-2 Modern Vietnamese Drama. Hat boi (Vietnamese Opera), Hat cheo (Popular Theater from North Vietnam), Cai luong (Modernized Opera and Musical), Thoai kich (Modern Theater), and Kich tho (Lyric Theater). Emphasis on the main plays, the stage techniques, and the literary and social meaning of those various forms of Vietnamese theater. Prerequisite: 321 and 410.

430-3 to 6 (3, 3) Grammatical Structures. Detailed analysis of the structure of particular languages. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.

431-3 Structure of the English Verb. An analysis of the English verb system. Special study of the modals and non-finites. Elective Pass/Fail.

- 440-1 to 6 (1 to 3 per topic) Topics in Linguistics.** Selected topics in theoretical and applied linguistics. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.
- 445-4 Introduction to Psycholinguistics.** A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems, and language and the brain.
- 450-3 to 6 (3, 3) Language Families.** A synchronic survey of particular language families or sub-families. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department. Elective Pass/Fail.
- 453-4 Methods in Teaching English as a Second Language.** Introduces the basic methods of teaching English as a second language, specifically as part of bilingual programs, and presents the theoretical premises and background from the fields of general linguistics, contrastive linguistics, psycholinguistics, education, and sociolinguistics. Prerequisite: undergraduate status. Elective Pass/Fail.
- 454-2 Observation and Practice in TESL.** Lessons in teaching English as a second language are modeled and demonstrated live and via video-tape. In addition to micro-teaching and other peer-teaching, students observe ESL/EFL classes and laboratories and do tutoring and practice teaching under supervision as schedulable. Enrollment limited to undergraduates. Prerequisite: 453 or concurrent enrollment or consent of department. Mandatory Pass/Fail.
- 455-2 Materials in TESL.** Examination and criticism of currently used textbooks in ESL and bilingual education programs, as well as other printed materials and visual and mechanical aids in teaching English as a second language. Prerequisite: 453 or consent of department. Elective Pass/Fail.
- 456-3 Contrastive Analysis.** Examination of the interference of other languages into the English of ESL learners on the levels of phonetics, phonology, morphology, syntax, lexicon, semantics, and orthography. Study of written and spoken errors, diagnosis of errors and development of techniques for correction. Prerequisite: 453 or consent of department. Elective Pass/Fail.
- 497-1 to 8 Readings in Linguistics.** Directed readings in selected topics. Prerequisite: consent of department and undergraduate status.
- 501-3 Contrastive Linguistics.**
- 504-3 Dialectology.**
- 506-4 Historical Linguistics.**
- 510-3 History of Linguistics.**
- 530-3 to 6 (3, 3) Historical Grammatical Structures.**
- 540-1 to 12 (1 to 3 per topic) Studies in Linguistics.**
- 545-3 Advanced Seminar in Psycholinguistics.**
- 550-4 to 8 (4 per topic) Seminar in Linguistics.**
- 570-4 Theory and Methods of EFL/ESL.**
- 571-3 Language Laboratories in EFL/ESL.**
- 572-2 Materials Preparation in EFL/ESL.**
- 575-3 EFL/ESL Testing.**
- 580-3 Seminar in Special Problems of EFL/ESL.**
- 581-2 Practicum in EFL/ESL: Oral English.**
- 585-3 Practicum in EFL/ESL: Written English.**
- 593-1 to 4 Research in Linguistics.**
- 596-3 Stylistics.**
- 597-1 to 8 Readings in Linguistics.**
- 599-1 to 6 Thesis.**
- 601-1 to 12 per semester Continuing Research.**

Marketing (Department, Major, Courses)

Marketing deals with all activities required to link production of goods and services with their use. The emphasis in all courses is upon the development of an analytical approach to the creative solution of marketing problems. The department will assist students in arranging suitable course sequences to prepare for careers in such fields as retailing, sales management, industrial marketing, physical distribution, promotional management, international marketing, and marketing administration.

Bachelor of Science Degree, College of Business and Administration

General Studies Requirements. 45-46

<i>Professional Business Core (See page 61.)</i>	47-48
<i>Requirements for Major in Marketing</i>	21
Marketing 329, 363, 390, 493	12
Marketing Electives	9
<i>Electives</i>	5-7
<i>Total</i>	120

Courses

304-3 Marketing Management. Management of the firm's marketing function within a dynamic operating environment. Includes study of such functions as product development, promotion, channel selection, logistics and market research. Prerequisite: junior standing or higher.

305-3 Behavioral and Social Aspects of Marketing. Examines underlying psychological, sociological, and economic factors which influence consumer behavior. Studies the impact of marketing activities on society, consumerism and legislation affecting the marketplace. Prerequisite: junior standing or higher.

329-3 Marketing Channels. The methods and processes used in the distribution of consumer and industrial products and services. Emphasis is upon the ways in which certain basic distribution functions are carried out in an integrated channel system. The role of a variety of manufacturers, wholesalers and retailers as parts of this system is analyzed. Prerequisite: 304 and junior standing or higher.

336-3 International Business. Business activities of firms and social organizations are examined in an international environment. The course will examine the fundamental concepts and principles of international business. It will focus on the international environment as the international dimension of marketing, financial, accounting, managerial, and production functions. Prerequisite: junior standing or higher.

341-3 Transportation. Organization and economic aspects of the United States transportation system, including rail, highway, air, pipeline, and water transportation. Regulatory problems of transportation. Current transportation developments and situations. Prerequisite: junior standing or higher.

350-3 Small Business Marketing. Deals with principles involved in locating market opportunities and developing growth plans for businesses requiring a relatively low initial capital investment. Taught from the point of view of the owner-manager relying heavily upon case examples of successful entrepreneurship. Prerequisite: junior standing or higher.

363-3 Promotional Concepts. The role of promotional activities in the firm's marketing function — advertising, personal selling, sales promotion and publicity. The relationship of consumer behavior to the area of promotion. Prerequisite: 304 and junior standing or higher.

390-3 Marketing Research and Analysis. The basic procedures and theories appropriate to solving various types of marketing problems in the context of business organization and decision models. Prerequisite: 304 and Administrative Sciences 208 or equivalent and junior standing or higher.

401-3 Retail Management. Designed to present the basic principles in decision areas such as location, layout, organization, personnel, merchandise control, sales promotion, advertising, etc. Retail merchandising through managerial perspective. Prerequisite: 304 and junior standing or higher.

435-3 International Marketing. Analysis of international operations. Emphasis on the factors influencing marketing to and within foreign countries and the alternative methods of operations open to international firms. Prerequisite: 304 and junior standing or higher.

438-3 Sales Management. Analysis of the management of the sales effort within the marketing system. Philosophies, concepts, and judgment criteria of the sales function in relationship to the total marketing program. Prerequisite: 304 and Administrative Sciences 304 or 301 and junior standing or higher.

439-3 Industrial Marketing. Analysis of decision criteria related to the marketing of industrial products. Emphasis on program development, formulation of a marketing mix, and the behavioral relationships in the modern industrial organization. Prerequisite: 304 and junior standing or higher.

452-3 Physical Distribution Management. Integration of physical distribution activities of the firm into a system. Transportation and location as elements of the system. Inventories and service as constraints upon the system. Planning, operation, organization, and management of the system. Prerequisite: 304 and junior standing or higher, or consent of the department.

463-3 Advertising Management. Advertising from the viewpoint of business management. Develops an understanding of the role of advertising under various conditions. Problems of integrating advertising strategy into the firm's total marketing program. Prerequisite: 304 and 363 and junior standing or higher.

493-3 Marketing Policies. A comprehensive and integrative view of marketing policy formu-

lation. Marketing decisions analyzed and discussed. Prerequisite: 329, 363, and 390 (not more than one to be taken concurrently) and junior standing or higher.

499-1 to 6 (1 to 3, 1 to 3) Marketing Insights. Provides the student an opportunity to participate in an internship program, independent study, or seminar coinciding with areas of interest. May be repeated for credit only when topics vary. Prerequisite: junior standing or higher, and approval of the instructor and the department chairperson in the semester prior to enrollment.

Mathematics (Department, Major, Courses)

Students intending to major in mathematics must plan schedules of mathematics courses numbered above 299 with a mathematics adviser. At least a C is required in all mathematics courses used to satisfy departmental requirements.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements (See page 72.)</i>	(4) + 8-14
<i>Requirements for Major in Mathematics</i>	37-40
(Pass/Fail grade not acceptable)	
Mathematics 150 (151 or 159 may substitute), 250 (259 may substitute), 251, 221	(4) + 10
Computer Science 202	(3)
Mathematics electives: seven courses at the 300-400 level, of which at least four are at the 400 level, excluding 301, 311, 314, 400, 411, but including 319 (or 419) and 352 (or 452)	21
Foreign Language (French, German, or Russian recom- mended)	(8)
Six to nine hours in one of the following areas, selection to be after the approval of the department: (a) engineering, (b) computer science, (c) physics, (d) economics, (e) business and adminis- tration; or any minor in a department of the College of Lib- eral Arts or of the College of Science, as defined by that depart- ment.	6-9
<i>Electives</i>	21-30
<i>Total</i>	120

Bachelor of Science Degree, College of Science

<i>General Studies Requirements</i>	45 ¹
<i>College of Science Requirements</i>	12
Foreign Language (listed under major)	
Biological Sciences (not General Studies)	6
Physical Sciences (not General Studies)	6
<i>Requirements for Major in Mathematics</i>	38
(Pass/Fail grade not acceptable)	
Mathematics 150 (151 or 159 may substitute), 250 (259 may substitute), 251, 221	(4) + 10
Computer Science 202	3
Mathematics electives: seven courses at the 300-400 level, of which at least four are at the 400 level, excluding 301, 311, 314, 400, 411, but including 319 (or 419) and 352 (or 452)	21
Foreign Language (French, German or Russian recommended)	(4) + 4
<i>Electives</i>	25
<i>Total</i>	120

¹The 45 hour requirement may be reduced by taking College of Science requirements which are approved substitutes for General Studies courses.

Bachelor of Science Degree, College of Education

Students in the College of Education with a major in mathematics must plan schedules of mathematics courses numbered above 199 with a mathematics adviser. Grades must be at least a C in mathematics courses numbered 150 or above used to satisfy these requirements.

<i>General Studies Requirements</i>	45 ¹
<i>Requirements for Major in Mathematics</i>	33-34
Mathematics 150 (151 or 159 may substitute), 250 (259 may substitute)	(4) + 4
Mathematics 221	3
A student may take some of the above courses by proficiency examination or may substitute honors calculus for calculus.	
Computer Science 202	3
Mathematics 311, 319, (or 419), 335, and 352 (or 452)	13
Mathematics 319E and 352E	2
At least 3 additional mathematics courses numbered above 399	8-9
<i>Professional Education Requirement</i>	25
See Teacher Education Program, page 63.	
<i>Electives</i>	16-17
<i>Total</i>	120

¹See Catalog section titled Curriculum, Instruction, and Media for specific certification requirements.

Unconditional admission into the Teacher Education Program in mathematics requires a 2.5 average in mathematics courses numbered above 149, including a grade of C or better in at least two mathematics courses numbered above 299 (not including Mathematics 311, 314, 400, or 411.)

Approval for student teaching requires a grade of C or better in Mathematics 311 and a 2.25 average in mathematics courses numbered above 299, including a grade of C or better in at least four other mathematics courses (not including Mathematics 314, 400, or 411.) Students with a minor in mathematics must also meet this requirement to student teach in mathematics.

Minor

A non-teaching minor consists of Mathematics 150, or 140, or equivalent and 12 hours of mathematics credit at the 200 level or above, including at least one course at the 400 level (excluding 301, 311, 314, 400, and 411). Courses should be approved by a mathematics departmental adviser. Elementary and secondary education students interested in a mathematics minor should see a mathematics departmental education adviser to obtain a current list of specific requirements. A grade of C or better must be earned in all courses used to meet minor requirements.

Honors

Mathematics 159 and 259 provide honors material in calculus and analytic geometry for properly qualified freshman and sophomore students. Mathematics 395 and 495 are used for individual honors work for upper level undergraduates in mathematics.

Courses

101-1 Mathematics Review for Pre-Law. Sample questions and problems related to mathematics and law school admission examinations. Fall only. Two hours weekly for half-semester. Mandatory Pass/Fail.

110-5 (3, 2) College Algebra and Trigonometry. A two-semester sequence version of the course Mathematics 111. Students with two or more years of high school algebra and no trigonometry should begin with 110b. Credit is not given for both 110 and 111. Prerequisite: GSD 107 or one and one-half years of high school algebra or the equivalent. Elective Pass/Fail.

111-5 College Algebra and Trigonometry. For students with one and one-half years of high school algebra who intend to take 150. The algebra of functions; exponential, logarithmic, and trigonometric functions; functions of two variables. Credit is not given for both 110 and 111. Prerequisite: GSD 107 or one and one-half years of high school algebra or the equivalent. Elective Pass/Fail.

114-4 Algebraic and Arithmetic Systems. Whole numbers, integers, rational numbers, and real numbers; numeration systems; algorithms; number theory; elementary algebra. Successful completion of this course requires a passing grade on a basic skills test of minimal mathematical proficiency. This course can be used to satisfy the mathematics requirements in General Studies. Prerequisite: one year of high school algebra or GSD 106 or equivalent.

116-5 Finite Mathematics and Algebra. Topics from intermediate algebra and college algebra, systems of linear equations, matrix algebra, Gauss-Jordan row reduction, linear programming, elementary probability theory, emphasis on business applications. Credit is not given for both 116 and 139. If there is prior credit in GSD 107, 110a, or 111, only 3 hours of credit for 116 may be applied to graduation requirements. This course can be used to satisfy the mathematics requirement in General Studies. Prerequisite: one year of high school algebra or GSD 106.

117-5 Finite Mathematics and Calculus. A continuation of 116. Topics in algebra, elementary differential calculus, max-min problems emphasizing business applications, partial derivatives, elementary integral calculus with applications in economics. Credit hours for both 117 and 140 or for both 117 and 141 may not be applied to fulfillment of degree requirements. No credit hours for 117 may be applied to fulfillment of degree requirements if there is prior credit in 150. Prerequisite: 116.

139-3 Finite Mathematics. Set concepts and operations, combinations, permutations, elementary probability theory including Bayes formula, linear systems of equations, matrix algebra, Gauss-Jordan row reduction, introduction to linear programming. Credit is not given for both 116 and 139. Prerequisite: GSD 107 or one and one-half years of high school algebra.

140-4 Short Course in Calculus. Techniques of differentiation, increasing and decreasing functions, curve sketching, max-min problems in business and social science; partial derivatives, LaGrange multipliers, elementary techniques of integration. Credit hours for both 117 and 140 or for both 140 and 141 may not be applied to fulfillment of degree requirements. No credit hours for 140 may be applied to fulfillment of degree requirements if there is prior credit in 150. Prerequisite: GSD 107 or one and one-half years of high school algebra.

141-4 Short Course in Calculus for Biological Sciences. Basic techniques of differentiation and integration. Population and organism growth problems solved by using calculus. Translation of physical problems in the biological sciences into mathematical problems. Credit hours for both 141 and 117 or for both 141 and 140 may not be applied to fulfillment of degree requirements. No credit hours for 141 may be applied to fulfillment of degree requirements if there is prior credit in 150. Prerequisite: 111 or equivalent.

150-4 Calculus I. Treatment of the major concepts and techniques of single-variable calculus, with careful statements but few proofs. Differential and integral calculus of the elementary functions with associated analytic geometry. Students interested in honors credit should see Mathematics 159. If there is prior credit in 140, 117, or 141, only 2 hours credit for 150 may be applied to graduation requirements. Prerequisite: 111 or equivalent. Elective Pass/Fail.

151-5 Calculus I with Algebra. Designed to include a modest review of high school algebra and trigonometry as well as all course material in 150. Credit is not given for both 150 and 151 nor for both 159 and 151. Prerequisite: three years of high school mathematics including two years of algebra and one-third year of trigonometry, or consent of department.

159-4 Honors Calculus I. Honors version of 150. Careful treatment of the major concepts and techniques of single-variable calculus. Credit is not given for both 150 and 159. Prerequisite: consent of department.

221-3 Introduction to Linear Algebra. Vector spaces, linear functions, systems of equations, dimensions, determinants, eigenvalues, quadratic forms. Prerequisite: 150. Elective Pass/Fail.

250-4 Calculus II. Develops the techniques of single-variable calculus begun in Calculus I and extends the concepts of function, limit, derivative, and integral to functions of more than one variable. The treatment is intuitive, as in Calculus I. Techniques of integration, introduction to multivariate calculus, elements of differential equations. Students interested in honors credit should see Mathematics 259. Prerequisite: 150. Elective Pass/Fail.

251-3 Calculus III. Further topics in calculus. Definite integrals over solid regions, applications of partial derivatives, vectors and vector operators, derivative of vector function, line integrals, Green's theorem. Prerequisite: 250. Elective Pass/Fail.

257-1 to 12 Concurrent Work Experience. As an instructional aide, the student will do tutoring under the direction of an established teacher and under the supervision of a represent-

- ative of the Department of Mathematics. Prerequisite: consent of department. Mandatory Pass/Fail.
- 259-4 Honors Calculus II.** An honors version of 250. Develops the techniques of single-variable calculus and extends the concepts of function, limit, derivative, and integral to functions of more than one variable. Credit is not given for both 250 and 259. Prerequisite: 159 or consent of department.
- 280-3 Introduction to Probability Theory.** Probability as a mathematical system, random variables and their distributions, limit theorems, topics in statistical inference. Prerequisite: 150 (250 recommended). Elective Pass/Fail.
- 282-3 Introduction to Statistics.** Designed to introduce beginning students to basic concepts, techniques, and applications of statistics. Topics include the following: organization and display of data, measures of location and dispersion, elementary probability, statistical estimation, and parametric and nonparametric tests of hypotheses. Prerequisite: three semester hours of college mathematics beyond general studies mathematics; e.g. any of 111, 117, 139. Elective Pass/Fail.
- 283-3 Introduction to Applied Statistics.** This course is experiment motivated, uses real-world data, and computer analysis of data. Statistical concepts discussed are descriptive statistics, elementary probability, expectation, sampling distributions, statistical estimation and testing, confidence intervals, correlation and regression, and contingency tables. The student is given experience in writing reports of experiments. Prerequisite: 140. Elective Pass/Fail.
- 301-3 Introduction to Discrete Structures.** (Same as Computer Science 342.) Sets, relations, and functions. Elements of graph theory with emphasis on algorithms and applications to computing problems. Boolean algebras with applications to computer logic and logical design. Prerequisite: 111 and Computer Science 202 or 212 or consent of either department.
- 305-3 Introduction to Ordinary Differential Equations I.** Solution techniques for differential equations with emphasis on second order equations, applications to physical sciences, numerical methods. Prerequisite: 250. Elective Pass/Fail.
- 306-3 Introduction to Ordinary Differential Equations II.** Laplace transforms and Fourier series with applications to ordinary and partial differential equations. Systems of first order differential equations, stability. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.
- 311-4 Teaching of Secondary Mathematics.** The nature and objectives of the secondary mathematics curriculum. Particular attention is given to the means of introducing new ideas into the high school program. For students preparing to be certified teachers of secondary mathematics. Three lectures and two laboratory hours per week. Does not count toward a mathematics major in the College of Liberal Arts or in the College of Science. Prerequisite: 319, 319E, and 335.
- 314-3 Topics in Mathematics for Elementary Teachers.** Measurement, metric system; geometric figures, transformations; symmetry, congruence, similarity; combinatorics, probability. This course may not be used to satisfy requirements for a mathematics major. Prerequisite: 114 or consent of department.
- 319-3 Introduction to Abstract Algebra.** Basic properties of groups and rings: Binary operations, groups, subgroups, permutations, cyclic groups, iso-morphisms, Cayley's theorem, direct products, cosets, normal subgroups, factor groups, homomorphisms, rings, integral domains. Prerequisite: 221; plus for secondary education majors, concurrent enrollment in 319E. Elective Pass/Fail.
- 319E-1 Modern Algebra as Applied to the Secondary Schools.** Two hours per week. The applicability of the concepts of modern algebra, particularly the field axioms and the function concept, to the secondary curriculum. Prerequisite: concurrent enrollment in 319. Mandatory Pass/Fail.
- 335-3 Concepts of Geometry.** An elementary introduction to various geometric systems to acquaint the students with the inter-relationship between geometries of current interest. Topics include axiom systems, absolute plane geometry, Euclidian geometry, and non-Euclidean geometry. Prerequisite: 221 or 250. Elective Pass/Fail.
- 352-3 Introduction to Analysis.** A rigorous treatment of concepts introduced in elementary calculus, such as real number system, limits and continuity, derivatives, integration, transcendental functions. Prerequisite: 221, 250; plus for secondary education majors, concurrent enrollment in 352E. Elective Pass/Fail.
- 352E-1 Analysis as Applied to the Secondary Schools.** Two hours per week. Sequences, series, infinite decimals, continuity. Applications to the secondary curriculum. Prerequisite: concurrent enrollment in 352. Mandatory Pass/Fail.
- 361-3 Numerical Calculus.** (See Computer Science 361.)
- 383-3 Introduction to Linear Models.** Elementary course in multiple linear regression and analysis of variance, emphasizing applications as opposed to theory. Students learn to read print-outs of standard canned statistical packages (e.g., SPSS). Linear models, response surfaces, time series, elementary design techniques, least squares prediction, F-tests in Anova, the use of canned programs. Not for mathematics majors. Prerequisite: 282 or 283 and 116 or 139; or consent of instructor.

395-1 to 6 Readings in Mathematics. Supervised reading in selected subjects. Prerequisite: 3.00 grade point average in mathematics and consent of chairperson.

400-3 History of Mathematics. An introduction to the development of major mathematics concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution of the function concept, and to the changes in the concept of rigor in mathematics from 600 B.C. Does not count toward a mathematics major in the College of Liberal Arts or in the College of Science. Prerequisite: 319 and 352 or consent of instructor. Elective Pass/Fail.

405-3 Intermediate Ordinary Differential Equations. Topics selected from linear systems, existence and uniqueness for initial value and boundary value problems, oscillation, and stability. Prerequisite: 306. Elective Pass/Fail.

406-3 Eigenfunction Methods in Applied Mathematics. Inner product spaces; orthonormal systems; Bessel's inequality; quadratic forms; Hermitian operators; eigenfunctions and eigenvalues; minimization properties of eigenfunctions; the spectral theorem for a Hermitian matrix; functions of matrices; Sturm-Liouville differential operators; convergence properties of Fourier Series; the Legendre, Laguerre, Hermite, and Tchebycheff families of orthogonal polynomials; functions of a Sturm-Liouville operator; Green's functions; the Laplacian operator in 1, 2, and 3 dimensions. Prerequisite: 221 and 305. Elective Pass/Fail.

407-3 Introduction to Partial Differential Equations. First order linear and quasilinear partial differential equations, characteristics, second order linear partial differential equations, classification of types, boundary value and initial value problems, well posed problems, the wave equation, domain of dependence, range of influence, Laplace's equation and Dirichlet problems, the maximum principle. Poisson's integral, fundamental solution of the heat solution. Prerequisite: 251, 305. Elective Pass/Fail.

409-3 Fourier Transform and Some Applications. Fourier transform, Fourier's integral theorem, convolution; linear systems; impulse functionals, basic techniques for evaluating Fourier transforms; transfer function of a linear system; band limited functions, sampling theorem; systems analysis; discrete and fast Fourier transforms. Prerequisite: 305 and 221 or 306.

411-1 to 6 (1 to 3, 1 to 3) Mathematical Topics for Teachers. Variety of short courses in mathematical ideas useful in curriculum enrichment in elementary and secondary mathematics. May be repeated as topics vary. Does not count toward a mathematics major. Elective Pass/Fail.

412-3 Problem Solving Approaches to Basic Mathematical Skills. Content of basic skills at all levels of education and the development of these skills from elementary school through college; emphasis on problem solving and problem solving techniques; determination of student skills and proficiency level. Credit may not be applied toward degree requirements in mathematics. Prerequisite: 314 or equivalent.

417-3 Applied Matrix Theory. Matrix algebra and simple applications, simultaneous linear equations, linear dependence and independence of vectors, rank and inverses, determinants, eigenvalues and eigenvectors, quadratic forms, applications. This course may not be counted toward a graduate degree in mathematics. Prerequisite: 139 or 221 or consent of department. Elective Pass/Fail.

419-4 Algebraic Structures I. Groups, subgroups, normal subgroups and homomorphism theorems, permutation groups, finite direct products, finite abelian groups, p-groups and Sylow's theorem, normal and subnormal series, Jordan Holder theorem. Rings and subrings, divisibility theory in integral domain, polynomial rings. Prerequisite: 319 or consent of department. Elective Pass/Fail.

421-3 Linear Algebra. Fields, vector spaces over fields, triangular and Jordan forms of matrices, dual spaces and tensor products, bilinear forms, inner product spaces. Prerequisite: 221. Elective Pass/Fail.

425-3 Theory of Numbers. Properties of integers, primes, divisibility, congruences, quadratic forms, diophantine equations, and other topics in number theory. Prerequisite: 319 or consent of department. Elective Pass/Fail.

426-3 Introduction to Mathematical Logic. (Same as Philosophy 426.) General introduction to the method of mathematical logic, forming of denials, the statement calculus including the deduction and completeness (with respect to truth tables) theorems, and the predicate calculus including the deduction theorem, deduction techniques; (in the predicate calculus) normal forms and equality, first order theories, first order number theory, consistency, truth (in the model-theoretic sense), completeness theorem (with respect to the model-theoretic definition of validity), independence, categoricity, decidability, and a brief introduction to Gödel's theorem. Prerequisite: 301, 319, 352, or Philosophy 320. Elective Pass/Fail.

433-3 Introduction to Topology. Study of continuity, convergence, compactness, and completeness in the context of metric spaces. Prerequisite: 352 or consent of department. Elective Pass/Fail.

435-3 Elementary Differential Geometry. An introduction to modern differential geometry through the study of curves and surfaces in \mathbb{R}^3 . Local curve theory with emphasis on the Serret-Frenet formulas; global curve theory including Fenchel's theorem; local surface theory motivated by curve theory; global surface theory including the Gauss-Bonnet theorem. Prerequisite: 251 and 221. Elective Pass/Fail.

- 437-3 Elementary Algebraic Topology.** Topological spaces; continuous maps. Finite products. Connectivity. Compactness. Manifolds. Classification of surfaces. Homotopic maps. Fundamental group. Covering spaces. Lifting theorem. Prerequisite: 319. Elective Pass/Fail.
- 445-3 Computer Logic and Digital Design.** (Same as Computer Science 445.) Boolean algebra with applications to computer logic and design. Combinational circuits, sequential circuits, and sequential machines. Programmed logic. Introduction to error-correcting codes. Prerequisite: 301 or both 319 and Computer Science 202.
- 449-3 Combinatorics and Graph Theory.** (Same as Computer Science 449.) An introduction to graph theory and combinatorial mathematics with computing applications. Topics include permutations and combinations, generating functions, recurrence relations, the principle of inclusion and exclusion. Polya's theory of counting, graph theory, transport networks, matching theory, block designs. Prerequisite: 301 or 319 or consent.
- 451-3 Introduction to the Theory of Computing.** (See Computer Science 451.)
- 452-4 Advanced Calculus.** Fundamental concepts of analysis; infinite series, functions and series of functions, uniform convergence, functions of bounded variation, Riemann-Stieltjes integral, functions of several variables, implicit functions and extreme values. Prerequisite: 352 or consent of department. Elective Pass/Fail.
- 455-3 Introduction to Complex Analysis and Applications.** Complex numbers, analytic functions, line integrals, the Cauchy-Goursat theorem and its implications, power series, Laurent series, polar and essential singularities, analytic continuation, contour integration, and the residue theorem, conformal mapping, asymptotic expansions. Prerequisite: 251. Elective Pass/Fail.
- 457-5 Methods of Quantitative Analysis.** (Same as Business Administration 451.) Introductory survey of basic quantitative methods necessary for graduate study in business; designed for students with deficiencies in methods of quantitative analysis. Course consists of introduction to calculus, matrix algebra, and probability. Extensive use is made of business examples. Prerequisite: enrollment in Master of Business Administration program or consent of instructor.
- 460-3 Transformation Geometry.** Geometry as the study of properties invariant under congruences, similarities, affine transformations, and projectivities. Prerequisite: 221 and 319. Elective Pass/Fail.
- 471-3 Introduction to Optimization Techniques.** (Same as Computer Science 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 221, 250, Computer Science 202 or 212.
- 472-3 Linear Programming.** (Same as Computer Science 472.) Nature and purpose of the model. Development of the simplex method. Application of the model to various problems. Introduction to duality theory. Transportation and network flow problems. Postoptimality analysis. Prerequisite: 221 and Computer Science 202 or 212.
- 473-3 Reliability Theory.** Formulation of the concept of reliability in term of probability theory. Failure distributions and failure rates. Elements of renewal theory. Age and block replacement policies, optimal replacement policies for classes of failure distributions. Prerequisite: consent of department. Elective Pass/Fail.
- 475-6 (3, 3) Numerical Analysis.** (Same as Computer Science 464.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Must be taken in a,b sequence. Prerequisite: 221, 250, Computer Science 202 or 212.
- 480-4 Introduction to Probability.** This is a comprehensive introduction to probability theory at a level suited to most upper division undergraduates and first year graduate students. Topics include: event spaces, probability functions, combinatorics, generating functions, conditional probability, independence, random variables, probability distributions, expectations, moments, characteristic functions, inversion formulae, sums of independent random variables, the multivariate normal distributions, the central limit theorem, the weak and strong laws of large numbers, Monte Carlo applications. Prerequisite: 251. Elective Pass/Fail.
- 481-3 Elements of Stochastic Processes.** An introduction, including normal, Poisson, and Markov processes. Prerequisite: 480. Elective Pass/Fail.
- 483-4 Introduction to Mathematical Statistics.** Development of the elements of statistical theory. Probability axioms, probability distributions, moments and moment generating functions. Statistical inference, point and interval estimation, testing hypotheses, regression and correlation, chi-square tests. Not for graduate credit in mathematics. Prerequisite: 250 and 221 or concurrent enrollment in 221. Elective Pass/Fail.
- 486-3 Design of Experiments.** A mathematical model development of the statistical design and analysis of experiments with emphasis on practical applications. Includes completely randomized, randomized block, Latin square, split plot, incomplete block, and response surface designs, as well as factorial and fractional factorial experiments. Prerequisite: 483. Elective Pass/Fail.
- 487-3 Nonparametric Methods in Statistics.** A discussion of confidence intervals and tests of

- hypotheses where no functional form is postulated for the population. Prerequisite: 483 or 480. Elective Pass/Fail.
- 488-3 Linear Statistical Models.** Introduction to the general linear model, theory and applications. This will include discussions of regression, analysis of variance, analysis of covariance, and model building. Prerequisite: 221 and 483. Elective Pass/Fail.
- 489-3 Sample Survey Methods.** Introduction to methods for sampling human populations, wildlife populations, and spatial distributions, and associated methods of data analysis. Emphasis will be given to criteria for choosing the appropriate sampling design and to the avoidance of nonsampling errors. Prerequisite: 483 or consent of instructor.
- 495-1 to 6 Special Topics in Mathematics.** Individual study or small group discussions in special areas of interest under the direction of a member of the faculty. Prerequisite: consent of chairperson and instructor. Elective Pass/Fail.
- 501-3 Real Analysis.**
- 505-3 Ordinary Differential Equations.**
- 506-1 to 9 Advanced Topics in Ordinary Differential Equations.**
- 507-3 Partial Differential Equations.**
- 508-3 Integral Equations.**
- 510-3 Mathematical Logic.**
- 512-3 to 12 (3 per topic per semester) Topics in Mathematical Logic.**
- 516-8 (4, 4) Statistical Analysis in the Social Sciences.**
- 520-3 Algebraic Structures.**
- 522-3 to 9 per topic (3, 3, 3) Advanced Topics in Algebra.**
- 525-3 Number Theory.**
- 526-3 to 9 per topic (3, 3, 3) Advanced Topics in Number Theory.**
- 528-3 Formal Languages and Automata.**
- 529-3 Theory of Computability.**
- 530-3 General Topology.**
- 531-3 Algebraic Topology.**
- 532-3 to 9 per topic (3, 3, 3) Advanced Topics in Topology.**
- 536-3 Differential Geometry.**
- 537-3 to 9 per topic (3, 3, 3) Advanced Topics in the Topology and Geometry of Manifolds.**
- 550-1 to 6 per topic (1 to 3 per semester) Seminar.**
- 551-3 Introduction to Functional Analysis.**
- 552-3 to 9 per topic (3, 3, 3) Special Topics in Analysis.**
- 553-3 to 9 (3, 3, 3) Special Topics in Functional Analysis.**
- 555-3 Complex Variables.**
- 560-3 Calculus of Variations.**
- 567-6 (3, 3) Econometrics I and II.**
- 570-3 to 9 (3, 3, 3) Topics in Operations Research.**
- 572-3 to 9 per topic (3, 3, 3) Advanced Numerical Analysis.**
- 580-3 Statistical Theory.**
- 581-3 Probability.**
- 582-3 to 6 per topic (3, 3) Advanced Topics in Probability and Statistics.**
- 588-3 Multivariate Statistical Analysis.**
- 595-1 to 12 per topic Special Project.**
- 599-1 to 6 Thesis.**
- 600-1 to 30 Dissertation.**
- 601-1 to 12 per semester Continuing Research.**

Medical Education Preparation (Courses)

Courses

- 400-1 to 6 (1 per semester) MEDPREP Seminar.** Seminar on social, professional, and scientific issues of interest to students planning a career in medicine or dentistry. Topics: (a) orientation; (b) medical/dental seminar. Required of MEDPREP participants. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to MEDPREP students. Must be taken in a,b sequence. Mandatory Pass/Fail.
- 401-1 to 20 (1 to 2 per area) MEDPREP Basic Skills.** Focus on skills critical for academic success in preprofessional and professional training. Areas: (a) learning skills; (b) science process skills; (c) quantitative skills; (d) perceptual motor skills; (e) interpersonal skills; (f) reading skills; (g) written communication skills; (h) vocabulary skills; (i) speed reading; (j) other. All areas required or proficiency demonstrated within the first year in program. Not for graduate credit. Prerequisite: restricted to MEDPREP students. Areas c, d, e, f, g, and i are Mandatory Pass/Fail.
- 402-1 to 12 (1 to 2 per topic) MEDPREP Special Problems.** Seminars, workshops, lectures, and field experiences related to preparing the student for medical/dental school and careers in

medicine or dentistry. Topics: (a) MCAT/DAT orientation; (b) research seminar; (c) clinical experience; (d) independent research; (e) independent readings; (f) other. Topic (b) required of all MEDPREP participants. May be taken for graduate credit only with written permission of the relevant department and graduate dean. Prerequisite: restricted to MEDPREP students. Topic (c) Mandatory Pass/Fail.

403-1 to 15 (1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2) **MEDPREP Biology Tutorial.** Depending on individual need content will be remedial, supplementary to concurrent biological science courses, or additional permitting acceleration. Sections will be (a) genetics; (b) anatomy, (c) physiology, (d) embryology, (e) microbiology, (f) zoology, (g) special. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to MEDPREP students or consent of instructor.

404-1 to 14 (1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2; 1 to 2) **MEDPREP Chemistry Tutorial.** Depending on individual need content will be remedial, supplementary to concurrent preprofessional chemistry courses (Chemistry 222a,b; 344 and 346; and 450) or additional permitting acceleration. Sections will be (a,b) inorganic; (c,d) organic; (e) biochemistry; (f) other. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to MEDPREP students.

405-1 to 4 (1 to 2, 1 to 2) **MEDPREP Physics Tutorial.** Depending on individual need content will be remedial, supplementary to concurrent preprofessional physics courses or additional permitting acceleration. Sections will correspond to two semester physics sequences. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to MEDPREP students.

Microbiology (Department, Major, Courses)

Microbiology deals with the study of microorganisms, examining various forms, their classifications, growth, reproduction, heredity, biochemistry, ecology, and their relationship to other living organisms including humans. The following program of study prepares one for laboratory or teaching positions after the bachelor's degree or for graduate study leading to advanced degrees. Students who anticipate the pursuit of higher degrees in microbiology are strongly urged to continue their study of chemistry through physical chemistry, which is an entrance requirement to graduate study in microbiology at many institutions.

Opportunities for specialized training in diagnostic bacteriology, virology, immunology, genetics, biochemistry, and industrial processes are available.

Bachelor of Arts Degree, College of Science

General Studies Requirements	45 ¹
Supplementary College of Science Requirements	5
Mathematics 110a,b or 111 (or its equivalent), or 140	(4) + 1
Foreign Languages	(4) + 4
Requirements for Major in Microbiology	65-69
Microbiology 301, 302	7
Microbiology electives: senior level work consisting of 16-20 lecture credits and a minimum of 9 laboratory credits	25-29
Biology 305 and one from Biology 306, 307, 308, or 309	6 ²
Chemistry 222a,b, 344, 345, 346, 347	19 ²
Physics 203a,b and 253a,b	8 ²
Electives	1-5
Total	120

¹The 45 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.

²These courses will meet the biological and physical science requirements for the College of Science and may be substituted for a maximum of 12 hours in General Studies.

Minor

A minor in microbiology consists of 16 semester hours, to include 301, 302, and other courses determined by the student in consultation with the microbiology adviser.

Courses

201-4 Elementary Microbiology. Basic concepts of microbiology, classification, metabolic activity and the effect of physical and chemical agents on microbial populations. Host-parasite interactions. Infectious agents, particularly as they affect the oral cavity; methods of transmission and control. Prerequisite: for students of dental hygiene.

301-4 Principles of Microbiology. Morphology, structure, metabolism, population dynamics, and heredity of the microbial agents with emphasis on pure culture methods of study of bacteria, viruses, and related organisms. Three hours lecture, three hours laboratory. Fall and Spring. Prerequisite: one year of college chemistry and GSA 115, or equivalent. Elective Pass/Fail.

302-3 General Microbiology. Methods of differentiation and classification of bacteria; their biochemical activities; genetics and biological and physiological interrelationships. Two hours lecture and three hours laboratory. Prerequisite: 301. Elective Pass/Fail.

403-2 Medical Bacteriology Lecture. A survey of the mechanisms of infection, epidemiology, and immunity and the specific application of these principles to the symptomatology, diagnosis, treatment, and control of the more common bacterial infections of humans. Two hours lecture. Fall semester. Prerequisite: 301.

404-2 Medical Bacteriology Laboratory. Procedures for the collection and handling of medical specimens for microbial examination and for cultivation and identification of the pathogenic organisms by their morphological, biochemical, and serological characteristics and the fundamental role of the bacteriologist in the diagnosis of infectious diseases. Four hours laboratory. Fall semester. Prerequisite: 403 or concurrent enrollment.

421-3 Foods and Industrial Microbiology Lecture. The relationships of microorganisms to the preparation and preservation of foods; their application to the industrial production of beverages, foods, antibiotics, and other commercial products. Consideration of sanitation, pollution, and recycling of waste products into useful materials. Pure food and drug regulations. Three hours lecture. Prerequisite: 301.

422-2 Foods and Industrial Microbiology Laboratory. Methods for preparation, preservation, sanitary inspection, and analyses of foods and industrial products. Four hours laboratory. Prerequisite: 421 or concurrent enrollment.

425-4 (2, 2) Biochemistry and Physiology of Microorganisms Lecture. Chemical composition, cellular structure, and metabolism of microorganisms. Prerequisite: organic chemistry.

426-4 (2, 2) Biochemistry and Physiology of Microorganisms Laboratory. Prerequisite: 425a,b or concurrent enrollment.

441-3 Virology Lecture. General properties; classification and multiplication of bacterial and animal viruses; lysogeny; immunological and serological reactions; relation of viruses to cancer; consideration of selected viral diseases of animals. Prerequisite: 301 and 302.

442-2 Virology Laboratory. Tissue culture methods, multiplication and assay of animal and bacterial viruses, purification, electron microscopy, interference, immunity. Five hours laboratory. Prerequisite: 441 or concurrent enrollment.

451-3 Immunology Lecture. Natural and acquired immunity. Antigens, antibodies, and antigen-antibody reactions in vitro and in vivo. Three hours lecture. Prerequisite: 403.

452-2 Immunology Laboratory. Natural defense mechanism and immune response, preparation of antigens and antibodies, serological reactions, conjugated antibodies, electrophoresis, immunological reactions in vivo. Five hours laboratory. Prerequisite: 451 or concurrent enrollment.

453-3 Clinical Microbiology and Immunology Lecture. Lectures dealing with the fundamentals and clinical applications of microbiology and immunology and the properties, pathogenesis, and control of bacterial, viral and mycotic infections in people. Three hours lecture. No limit on enrollment. Prerequisite: 403, 441, and 451.

454-2 Clinical Microbiology and Immunology Laboratory. Methods and procedures in the clinical diagnosis of microbiological and immunological diseases in people. Four hours laboratory. Enrollment limited to 12. Prerequisite: 404, 442, and 452, consent of instructor, and 453 or concurrent enrollment.

460-3 Genetics of Bacteria and Viruses Lecture. Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing, and reactivation phenomena. Three hours lecture. Prerequisite: 301.

461-3 Genetics of Bacteria and Viruses Laboratory. Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing, and reactivation phenomena. Six hours laboratory. Prerequisite: 460 or concurrent enrollment.

470-3 Prokaryotic Diversity. A consideration of the major groups of prokaryotes with special emphasis on their comparative physiology and biochemistry. Prerequisite: 301 or equivalent and one year of organic chemistry.

490-1 to 3 Undergraduate Research Participation. Investigation of a problem either individually or as part of a research group under the direction of a member of the faculty. Prerequisite: 3.0 grade point average in microbiology and consent of instructor.

500-1 Seminar.

504-3 Methods of Microbiological Research.
505-1 Special Topics in Microbiology.
511-1 to 7 Research.
520-2 Advanced Microbial Physiology and Control Mechanisms.
528-1 to 3 Readings in Microbiology.
540-3 Advanced Virology.
541-3 Advanced Virology Laboratory.
542-3 Molecular Virology.
543-3 Molecular Virology Laboratory.
551-3 Advanced Immunology.
562-3 Molecular Genetics.
599-1 to 3 Thesis.
600-1 to 12 Dissertation.
601-1 to 12 per semester Continuing Research.

Mining Engineering

(SEE ENGINEERING)

Molecular Science (Major [Doctoral Only], Courses)

Courses

592-1 Colloquy in Molecular Science.
597-2 to 30 Selected Topics in Molecular Science.
598-2 to 16 Special Projects in Molecular Science.
600-1 to 36 (1 to 16 per semester) Dissertation.
601-1 to 12 per semester Continuing Research.

Mortuary Science and Funeral Service (Program, Major, Courses)

This program is the only mortuary science program offered in a public university in Illinois. The program was developed in response to a request from the Illinois Funeral Directors Association. The Association's members recognized the need for a school of higher education to educate funeral service practitioners. The program is fully accredited by the American Board of Funeral Service Education and the Illinois Department of Registration and Education.

This program also is designed to accommodate students transferring from community colleges at the end of the first year. Enrollment of beginning students is limited by size of faculty and physical facilities with new students admitted only in the fall semester. Additional application information is required other than that required for admission to the University.

The program requires two academic years of study and one summer of internship in a funeral home for completion. In addition to technical courses which prepare the student for the profession, the student will take a number of courses which will lead to an understanding of the psychological, sociological, and theological implications of death.

Charge for laboratory costs will be approximately \$15.

Faculty members are licensed funeral directors and embalmers with experience in the profession. Professional courses are offered in the program's own preparation room-laboratory. Graduates of the program will have satisfied requirements for the trainee license and will be eligible to write the State and/or National Board examinations and to begin serving their traineeship. Career opportunities are excellent and to date, all graduates who desired placement have been employed.

Persons active in the profession serve on the program's advisory committee.

Current members are: Joseph McCracken, McCracken Funeral Home, Pana; Hugh Kenny, Chicago Funeral Directors Services Association; Richard Yurs, Yurs Funeral Home, St. Charles; Dwight LeMasters, Mitchell Funeral Home, Marion; William Froelich, Jr., Froelich Memorial Home, Gridley; Daniel A. Justen, Peter M. Justen and Son Funeral Home, McHenry; Joseph W. Schilling, Schilling Funeral Home, Mattoon, William Huffman, Huffman Funeral Home, Carbondale; James R. Wilson, Wilson Funeral Home, Marion; and Robert W. Ninker, executive secretary, Illinois Funeral Directors Association, Springfield.

This associate degree program can be completed in two academic years, plus one summer session, at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Mortuary Science and Funeral Service

GSA 115, 106.	6
GSB 202.	3
GSD 101.	3
GSD 117, 118, or 119.	2
GSD 153.	3
School of Technical Careers 120.	3
Secretarial and Office Specialties 208.	3
Mortuary Science 101, 102, 108, 225a, b, 230, 250a, b, 256, 257, 375a, b, 380.	48
Elective (in Health Education).	2

Total 73

Courses

101-3 Orientation to Funeral Service. Students will trace the history of funeral services from ancient times through practices with emphasis on the development of funeral practices in the United States. Students study the customs of various cultures throughout the world including customs in the United States. They will demonstrate a knowledge of funeral service organizations and will discuss topical areas of current discussion. Lecture three hours.

102-4 Restorative Art. Students will study the anatomical structure of the cranial and facial areas of the human skull. They will describe the facial proportions and markings. The student studies the methods and techniques used to restore facial features that might have been destroyed by traumatic and pathological conditions. They will demonstrate a knowledge of color and cosmetology theory. Laboratory assignments will include modeling, applying cosmetics, making hair restorations and casting facial features. Lecture three hours. Laboratory two hours.

108-3 Funeral Service Psychology. Designed to acquaint the student with an overview of psychology in funeral service as applied to death, grief, and mourning. Students will examine interpersonal and public relations as they affect the funeral service practitioner in relationship with the public served. Lecture three hours.

225-8 (4, 4) Embalming Theory and Practice. (a) The student will be introduced to techniques of embalming through a study of the body, sanitation, embalming agents, instruments, and methods of embalming. The student studies the theory, practices, and techniques of sanitation; and restoration and preservation of deceased human remains. Laboratory experience will consist of embalming deceased remains and of other related activities. Lecture three hours. Laboratory two hours. (b) The student will study the anatomy of the circulatory system, the autopsied case, the cavity embalming, the contents of the thoracic and abdominal cavities, and the treatment of "special cases" that might be encountered in the embalming process. Laboratory experience is a continuation of 225a. Lecture three hours. Laboratory two hours. Must be taken in a,b sequence.

230-4 Mortuary Anatomy. The student will study the structure and function of the human body as a whole including: general organization, structural organization, tissues, skeletal system, nervous system, circulatory system, physiology of circulation, glands, respiratory system, digestive system, genito-urinary system, integument, and special senses. Lecture four hours.

250-8 (4, 4) Mortuary Management. (a) The student will examine the problems involved in the practice of funeral management. Included are the funeral director's responsibilities from the

first call until the completion of the last service rendered the family, funeral home operation and records, ethics and professional regulations. Lecture four hours. (b) The student will trace the laws and regulations that govern the practice of funeral service, and study the Illinois License Law, Vital Statistics Act, transportation rules, and Social Security regulations. The funeral director's responsibilities and relationships to local boards of health and the State Department of Public Health are emphasized. Lecture four hours.

255-5 Embalming Chemistry. The student will study the chemistry of the body, sanitation, toxicology, chemical change in deceased human remains, disinfection, and embalming fluids. Laboratory experiments will complement lecture material. Lecture four hours. Laboratory two hours.

256-4 Introductory Microbiology. The student will survey microbiology: morphology, structure, physiology, populations of microbial organisms, microbial destruction, immunology, and pathogenic agents. Lecture four hours.

257-4 Pathology. Students will be introduced to the study of the cause, course, and effects of diseases upon the human body with stress on ways in which tissue changes affect the embalming process. Lecture four hours. Prerequisite: 230 or equivalent.

375-8 (4, 4) Funeral Service Internship. (a) Students will spend one summer in a university approved funeral home learning in actual practice situations: functional organization, procedures, and policies of the establishment. They will perform duties and services as assigned by preceptor and coordinator to include surveillance of and participation in the execution of total services rendered to a family. (b) They will be given an opportunity to learn embalming techniques by active participation in the preparation room. Service reports and assignments are required to be completed by the student. Prerequisite: all other requirements of the Mortuary Science curriculum must be met. Must take a and b concurrently.

380-2 Funeral Service Seminar. Formal discussions are held to evaluate the experience and progress of the participants in the internship program. Preparations are made for the board examinations. Prerequisite: concurrent enrollment in 375. Mandatory Pass/Fail.

Museum Studies (Minor)

Museum studies is available as an undergraduate interdisciplinary minor. The purpose of the minor is to introduce students to various aspects of museum work, to acquaint them with the opportunities and problems faced by museums and museum personnel, and to create career opportunities for students who might seek employment in a museum. Emphasis will be placed on actual work situations in such diverse museum functions as exhibition, curation, cataloging, acquisition, and administration.

Minor

The museum studies minor consists of 18 hours, with 12 hours of required core courses and 6 hours of electives. Within the core courses listed below students must take six hours offered by one department and six hours from at least two other departments. Students may then elect six hours from either the other core courses or electives listed below.

Core Courses: Anthropology 450a and 450b; Art 447; Geology 445; History 497 and 498.

Electives: Anthropology 404 and 460; Art 207 and 499; Political Science 441; Geology 440; History 490 and 493.

Music (School, Major, Courses)

The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the published regulations of the National Association of Schools of Music, of which this school of music is a member.

Students who wish to major in music are assumed to have acquired extensive experience in performing with school groups and/or as a soloist, basic music reading ability, and a strong sensitivity to music and a desire to communicate it to others. Those without such a background will have to complete additional prepara-

tion, which may extend the time to graduation beyond four academic years. Music credits earned at other accredited institutions will apply toward requirements, but the transferring student remains subject to evaluation by the appropriate music faculty for proper placement in the music curriculum.

All students in the Bachelor of Music degree program must maintain satisfactory membership in one of the following ensembles: Music 011, 013, 014, 017, 020, 021, 022, or 365g every term in residence. The choice of major ensemble must be compatible with the student's applied field. Instrumental music education students must enroll in Music 011 for a minimum of one semester. All junior and senior students with a major or minor in music must maintain satisfactory membership every session in one of the above ensembles, or in one of the following: Music 341, 346, or 414. Students are exempt from this requirement during the session of student teaching. Students also may elect additional large or small ensembles, not to exceed three in any one session.

Each student with a major or minor in music must designate a principal applied field and complete the credits specified within the selected specialization. Changes in the principal applied field are permissible so long as the student accumulates the required credit total and meets the required level of proficiency.

Credits in one's principal applied field are based on private lessons with a member of the faculty, weekly participation in Studio Hour (Mondays, at 10:00 a.m.), and recorded attendance each semester at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant. Students who fail to fulfill either the Studio Honor or attendance at campus recitals or concerts requirements will receive a grade of Incomplete, which can be removed only by making up the deficiency during the ensuing semester. A student who wishes to attempt the performance specialization in applied music must have prior approval of the appropriate faculty jury, and thereafter enrolls for and receives two lessons per week for 4 credits per semester.

A student may elect private instruction in a second field or fields, but this is for one credit per semester since the studio hour and recital attendance requirements pertain only to the principal applied field.

Students not majoring or minoring in music may elect private applied music instruction if they can exhibit sufficient ability, they are participating simultaneously in one of the University performing groups, and faculty loads will allow. Registration is at one credit per semester, with no studio hour or recital attendance requirement. Those wishing such instruction should arrange for an interview and audition with the appropriate instructor.

Students specializing in music education should apply for admission to the Teacher Education Program as soon as they have accumulated 30 semester hours of credit. After being admitted, they must complete a series of specific requirements in order to qualify for student teaching and for the Illinois teaching certificate. Additional information is given under Education, Professional Education Experiences, and Curriculum, Instruction, and Media in this chapter.

Financial Information

Special grants and awards are available to students enrolled in the School of Music who are qualified and in need of financial assistance. Opportunities for employment in the student work program are excellent. In addition, there are scholarships (tuition awards) and loan programs available through the Office of Student Work and Financial Assistance.

Beyond the general university tuition and fees, there are no additional charges for music lessons or use of practice rooms, nor for rental of instruments used in classes or performing groups; however, students are responsible for purchase of their own textbooks, solo literature, and incidental supplies for music lessons and classes. Such costs normally range from \$20 to \$50 per semester.

Bachelor of Music Degree, College of Communications and Fine Arts

<i>General Studies Requirements</i>	45
Including GSA 361 and Music 102 and 105a as GSC substitutes	
<i>Requirements for Major in Music</i>	75
Theory: Music 104a,b; 105a,b; 204; 205; 207; 321; 322	(3) ¹ + 16
History-Literature: Music 102; 357a,b.....	(2) ¹ + 6
Major performing ensembles (8 semester).....	8 ²
Partial Recital: Music 398.....	1
Beginning Piano: Music 030 (or waiver by examination).....	4 ³
Specialization (see below).....	40
<i>Total</i>	120

MUSIC MAJOR — PERFORMANCE SPECIALIZATION, INSTRUMENTAL (STANDARD ORCHESTRAL AND BAND INSTRUMENTS, AND GUITAR)

Music 140-440, principal field, 8 semesters	28
Music 498	2
Music 407, 421, 461, or any of 470 series	6
Approved music electives	4
	40

MUSIC MAJOR — PERFORMANCE SPECIALIZATION, KEYBOARD (PIANO, ORGAN, AND HARPSICHORD)

Music 030 not required ³	
Music 140-440, principal field, 8 semesters	28
Music 498	2
Music 461	3
Music 407, 421, or any of 470 series	4
Music 341	3
	40

MUSIC MAJOR — PERFORMANCE SPECIALIZATION, VOICE

Music 140-440, principal field, 8 semesters	28
Music 498	2
Music 407, 421, 461, or any of 470 series	4
Approved foreign language, 2 semesters	(4) ¹ + 4
Music 363	2
	40

MUSIC MAJOR — MUSIC HISTORY-LITERATURE SPECIALIZATION

Music 140-340, principal field, 6 semesters	12
Music 407, 421	4
Music 472 or 499	2
Music 475, 476, or 477.....	6
Approved foreign language, 3 semesters	(4) ¹ + 8
Approved electives (suggest Music 410, 414, 482, and fourth semester of foreign language)	8
	40

MUSIC MAJOR — MUSIC THEORY-COMPOSITION SPECIALIZATION

Music 140-340, principal field, 6 semesters	12
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Music 407, 421	4
Music 280	4
Music 480, 481, or 499	8
Music 470 series	5
Approved music electives, 300 level or above	7

 40

MUSIC MAJOR — MUSIC BUSINESS SPECIALIZATION

<i>General Studies Requirements</i>	45
Including GSA 361 and Music 102 and 105a as GSC substitutes	
<i>Requirements for Major in Music with Music Business Specialization</i>	75
Accounting 220, 230	6
Administrative Sciences 304	3
Economics 215	3
Finance 271	3
Marketing 304, 363, 401, 438	12
Music 104a, b, 105a, b	8
Music 305	2
Music 324	1
Music 374, 375	6
Music 420	1-2
Music 040-240, 4 semesters	4-8
Music 030, 2 semesters (or waiver by examination)	2
Music 031 (or waiver by examination)	1
Six semesters chosen from 011, 013, 014, 017, 020, 021, 022	6
Music 032-1, 033-1, 034-1, 035-1, 036-1	5
Music electives	7-12
Electives selected from GSA 101, GSC 371, Music 036, Music 373, Physics 325, 355, or intern-cooperative training.	

Total
 120 |**Bachelor of Music Degree, College of Communications and Fine Arts or
Bachelor of Science Degree, College of Education**
MUSIC MAJOR — MUSIC EDUCATION SPECIALIZATION⁴

<i>General Studies Requirements</i>	45
Including GSA 361; GSB 202, GSB 212 or 300, and Music 102 and 105a as GSC substitutes	
<i>Requirements for Major in Music</i>	57
Theory: Music 104a,b; 105a,b; 204, 205; 207; 321; 322	(3) ¹ + 16
History-Literature: Music 102, 357a,b.	(2) ¹ + 6
Major performing ensembles, 7 semesters ²	7
Music 140-340, principal field, 6 semesters	12
Music 398	1
Music 031 (or waiver by examination)	1
Music 304	2
Music education specialization	12
Music 030 ³	2
Music 032, 033, 034, 035	4
Music 305, 318, 324	6
Or	
Music 030	4
Music 317, 325	4

Music 306 or 032-036 series	2
Music 363	2
Professional Education Requirements	24
See Teacher Education Program, page 63.	
Music 304 and 306 substitute for Education 312.	
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Total	126

¹GSC substitutes.
²Exception for performing ensembles in music education specialization.
³Exceptions for Music 030 (and consequent credit hour adjustment) in keyboard performance and instrumental music education specializations.
⁴These programs meet the requirements for the Illinois Special Teaching Certificate in music.

Bachelor of Arts Degree, College of Communications and Fine Arts

The Bachelor of Arts degree is individually tailored to meet the needs and educational goals of each student pursuing it. Of the 40 hours in music necessary to complete this degree, required courses are Music 102, 104a, b, 105a, b; four semesters of 140, eight hours; performing ensembles, four semesters, four hours. The remainder of the music courses necessary to complete the degree program are selected by the student in consultation with the School of Music adviser and faculty sponsor. This planning is done during the first semester. Changes may be made if agreed upon by the student, the School of Music adviser and the student's faculty sponsor. Students must comply with the studio hour and recital attendance requirements listed under general requirements in music.

Minor

The minor in music includes Music 102, 030a,b, 104a,b, 105a,b, 357a,b; two semesters of performing ensembles, two hours; and two semesters of 040 or 140, four hours for a total of 24 credits. Students must comply with the studio hour and recital requirements listed above.

Courses

- 011-1 to 8 (1 or 2, 1 or 2, 1 or 2) **Marching Salukis.** Fall semester only. Open to all students with experience in bands. Performs at all home football games, and one or two away. Counts as a "major ensemble," one of which must be taken each semester by resident music majors.
- 012-1 to 4 (1, 1, 1, 1) **Laboratory Band.** Spring semester only. Open to all students with experience in bands. Opportunity to extend experience on one's secondary instrument, if desired. Performs at all home basketball games and functions as laboratory group for conducting students.
- 013-1 to 16 (1 or 2 per semester) **Symphonic Band.** Open to all students with experience in bands. Performs standard literature. Two or three concerts per year. Counts as "major ensemble," one of which must be taken each semester by resident music majors.
- 014-1 to 16 (1 or 2 per semester) **Concert Wind Ensemble.** A select group which performs advanced contemporary literature. Three concerts and tour per year. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.
- 015-1 to 16 (1 or 2 per semester) **Jazz Ensemble.** For students experienced with popular literature. Concerts and tours when feasible. Prerequisite: audition prior to first registration.
- 016-1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Brass and Percussion Ensemble.** A select group, performing literature scored for this instrumentation. Two or three concerts per year and tour as feasible. Prerequisite: audition prior to first registration.
- 017-1 to 16 (1 or 2 per semester) **Symphony.** Open to all experienced string, woodwind, brass, and percussion players. Plays standard and advanced orchestral literature, performs three or four concerts per year. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.
- 018-1 to 4 (1, 1, 1, 1) **String Orchestra.** Fall semester only. Open to all string players concurrently enrolled in Symphony. Rehearses symphony parts and string orchestra literature.
- 019-1 to 4 (1, 1, 1, 1) **Laboratory Orchestra.** Spring semester only. Open to all experienced string, woodwind, brass, and percussion players with consent of instructor. Performs opera and orchestral-choral works.
- 020-1 to 16 (1 or 2 per semester) **University Chorus.** Open to all students who desire to sing.

Study and performance of major choral-orchestral literature. Two concerts per year. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. No audition required.

021-1 to 16 (1 or 2 per semester) S.I.U. Chorale. Open to all experienced singers. Emphasis on advanced contemporary literature. Three or four concerts per year and tours as feasible. Counts as a "major ensemble," one of which must be taken each semester by resident music majors.

022-1 to 16 (1 or 2 per semester) University Choir. A select group which performs advanced choral literature of all eras. Three or four concerts per year and tours as feasible. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration, and each succeeding fall.

023-1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Southern Singers. Open to all experienced singers. Emphasis on light, popular literature. Two or three appearances per year.

024-1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Male Glee Club. Open to all male students who desire to sing. Serious and lighter glee club material. Frequent appearances on and off campus.

025-1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Women's Choral Ensemble. Open to all women who desire to sing. Two or three appearances per year.

030-4 (1, 1, 1, 1) Piano Class. (a) Level 1, (b) level 2, (c) level 3, (d) level 4. Designed to develop functional command of basic keyboard skills needed in the further study of music and the teaching of music. Take in sequence unless assigned advanced placement by instructor. Prerequisite: major or minor in music, elementary education, early childhood education, or consent of instructor.

031-2 (1, 1) Voice Class. (a) Level 1, (b) level 2. Designed to develop functional command of basic vocal skills needed in teaching music. Prerequisite: consent of instructor.

032-2 (1, 1) String Techniques Class. (a) Upper strings; (b) lower strings. Designed to develop essential techniques and principles which can be used in teaching young string pupils. Prerequisite: music major or minor.

033-4 (1, 1, 1, 1) Woodwind Techniques Class. Flute, clarinet, oboe, bassoon. Designed to develop essential techniques and principles which can be used in teaching young woodwind pupils. Students may begin on one instrument and shift to another at midterm, or they may continue with the same instrument with the consent of the instructor. Prerequisite: music major or minor or consent of instructor.

034-2 (1, 1) Brass Techniques Class. Trumpet, french horn, trombone, tuba. Designed to develop essential techniques and principles which can be employed in teaching beginning brass pupils. Students may begin with one instrument and shift to another at midterm or they may continue with the same instrument with the consent of the instructor. Prerequisite: music major or minor.

035-1 Percussion Techniques Class. Designed to develop basic techniques and principles which can be employed in teaching young percussion pupils. Prerequisite: music major or minor.

036-2 (1, 1) Guitar Class. (a) Level 1, (b) level 2. Designed to develop basic techniques and principles which can be employed in teaching music. Prerequisite: major or minor in music, elementary education, or early childhood education, or consent of instructor.

040, 140, 240, 340, 440, 540-1, 2, or 4 Applied Music. Offered at six levels in the areas listed below. May be repeated for credit as long as passing grade is maintained. Student must be concurrently enrolled in one of the performing groups. Prerequisite for 040: satisfactory completion of beginning class instruction offered in that area, or the equivalent. Prerequisite for 140: three or more years of prior study or performing experience, or two semesters of C or better at 040 level. Prerequisite for 240, 340: two semesters of C or better at previous level, or consent of applied jury. Prerequisite for 440, 540: two semesters of B or better at previous level, or consent of applied jury. Music majors and minors enroll for two credits on their principal instrument, taking one half-hour private lesson and studio class, Mondays at 10:00. Those with prior approval by their applied jury for the specialization in performance enroll for four credits, taking two half-hour private lessons and the student class each week. Non-music majors or minors, and those music majors taking a second instrument, enroll for one credit, taking one private or class lesson per week. Six hours of individual practice per week required for each lesson. For shorter sessions, credit is reduced or lesson time is increased proportionately.

- a. Flute
- b. Oboe
- c. Clarinet
- d. Bassoon
- e. Saxophone
- f. Horn
- g. Trumpet

- h. Trombone
- i. Baritone
- j. Tuba
- k. Percussion
- l. Violin
- m. Viola
- n. Cello

- o. String Bass
- p. Voice
- q. Piano
- r. Organ
- s. Harpsichord
- t. Guitar
- u. Recorder

101-3 Music Fundamentals. Rudiments of music for those with little or no musical background. One lecture and one piano laboratory session per week. Provides basic music vocabulary and keyboard competency for 300, 301, 302, and 303.

102-2 Survey of Music Literature. Characteristic forms and styles. Analysis and listening. Examples from the leading composers of each era. Prerequisite: music major or minor.

104-2 (1, 1) Aural Skills. A laboratory course designed to complement 105a and b. Practice in recognition and singing of basic pitch and rhythm materials, and their realization in standard musical notation. For those planning a major or minor in music, take a and b in sequence, or, with prior consent of instructor, concurrently.

105-6 (3, 3) Basic Harmony. Study of traditional diatonic tonal materials and standard notational practice. Includes keyboard skills. For those with performing experience and planning a major or minor in music. Take a and b in sequence. Prerequisite: concurrent registration in 104 and 030, or equivalent aural and keyboard skill.

107-1 Applied Harmony for Fretted Instruments. Application of basic harmonic functions to the fretted instruments including guitar. Prerequisite: concurrent enrollment in guitar (140-540t) or consent of instructor.

140-1, 2, or 4 Applied Music. (See 040.)

204-1 Advanced Aural Skills. Continuation of 104. Designed to complement 205. Prerequisite: 104b.

205-3 Advanced Harmony. Study of chromatic tonal materials, including keyboard skills. Prerequisite: 104b and 105b, and concurrent registration in 204.

207-2 Contrapuntal Techniques. Basic contrapuntal principles and skills, especially as applied to 18th and 19th century styles. Extensive writing practice, and analysis of stylistic models. Introduction to major contrapuntal forms. Prerequisite: 205 and 204, or take 204 concurrently.

240-1, 2, or 4 Applied Music. (See 040.)

250-3 The History and Literature of the Guitar and Related Fretted Instruments. A survey of the history and literature of the guitar and related fretted instruments from the Renaissance to the present with emphasis on interpretation.

257-12 Intern-Work Experience. Practical experience in music retailing, wholesaling, and publishing under the supervision of professional firms. Open only to candidates for the Bachelor of Music degree with emphasis in music business.

280-2 to 4 (2, 2) Beginning Composition. Application of contemporary compositional techniques. Prerequisite: 105b or consent of instructor.

300-2 Teaching Music in the Primary Grades. For non-music majors only, who may be expected to teach music in grades K-3. Methods and materials for instruction. Prerequisite: 101 or equivalent.

301-2 Teaching Music in the Intermediate Grades. For non-music majors only, who may be expected to teach music in grades 4-6. Methods and materials for instruction. Prerequisite: 101 or equivalent.

302-2 Music in Special Education. For non-music majors only, with an interest in pursuing a career in special education. Prerequisite: 101 or equivalent.

303-3 Music for Pre-Schoolers. Methods and materials for teaching music to pre-school children. Recommended for majors in the Department of Child and Family and in early childhood education. Prerequisite: 101 or equivalent.

304-2 The General Music Program. A survey of problems and methods in teaching music in the schools, with scheduled observations of school music programs in operation. Special attention to the teaching of comprehensive musicianship through the general music program in the junior high school. Prerequisite: admission to teacher education program.

305-2 Instrumental Music in the Schools. Administration of the school instrumental music program. Emphasis upon teaching instruments and the management and instruction of instrumental organizations. Prerequisite: 304.

306-2 Music Specialist in the Elementary Schools. Principles and methods employed in supervising and teaching the elementary school music program. Designed for music majors and minors. Prerequisite: 304.

317-3 Choral Conducting and Methods. Score reading, baton techniques, and rehearsal techniques, organization and management problems of school choral groups. Prerequisite: music major or minor and junior standing.

318-3 Instrumental Conducting. Score reading, baton techniques, and rehearsal management. Supervised application in ensemble. Prerequisite: music major or minor and junior standing.

321-2 Form and Analysis. Comprehensive study of harmonic and formal structures and typical stylistic traits of 18th and 19th century music. Prerequisite: 204 and 207.

322-3 Principles of 20th Century Music. Comprehensive study of harmonic techniques and other stylistic traits of major 20th century idioms. Prerequisite: 321.

324-1 Instrumental Arranging. Practice in scoring of transcriptions, arrangements, and original compositions for standard instrumental groups. Prerequisite: 205.

325-1 Choral Arranging. Practice in scoring arrangements and/or original compositions for choral groups. Prerequisite: 205.

331-1 Jazz Improvisation. Ear training, phrasing in extemporaneous playing, use of chord

symbols and chord progressions, special effects peculiar to jazz playing and styles of playing. Prerequisite: 205.

340-1, 2, or 4 Applied Music. (See 040.)

341-1 to 8 (1 or 2 per semester) Accompanying Laboratory. Experience, under supervision, in accompanying soloists and groups. Counts as a "major ensemble" for juniors and seniors.

346-1 to 16 (1 or 2 per semester) Opera Workshop. Open to all experienced singers and stage technicians. Performs one major work and two or more excerpt programs per year. Normal registration is for two credits; four credits with permission for those with major roles; eight credits for full-time summer workshop. Counts as a "major ensemble" for juniors and seniors.

347-1 to 12 Music Theater Workshop. For experienced singers, actors, dancers, and instrumentalists. Normally offered during summer as a full-time course, for eight credits, or one credit per show for the orchestral players. Three or four musicals are rehearsed and presented. Prerequisite: audition.

357-6 (3, 3) Music History. Study of musical examples and techniques evolving from the ancient period to the present. May take a or b in either order. Prerequisite: 102 and junior standing.

363-2 (1, 1) Pronunciation and Diction for Singers. (a) English and French, (b) German and Italian. Establishment of proper pronunciation as applied to vocal literature. Prerequisite: one or more semesters of private or class voice instruction. Elective Pass/Fail.

364-2 The Alexander Technique of Body Control. A controlled discipline to counteract tension habits that are harmful to correct use of the body, particularly as they relate to music, speech, dance, and theater.

365-1 to 48 Chamber Music. Groups of two to sixteen performers as organized and sponsored by individual faculty members. Includes duo-piano teams, and piano in combination with other performers. Regular weekly rehearsals of appropriate music and public performance as feasible. Section (g) counts as a "major ensemble", one of which must be taken each semester by resident music majors, specializing in classical guitar and, if accepted by audition, by juniors and seniors whose principal instrument of study is the classical guitar.

a. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Chamber Music-Vocal.

b. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Chamber Music-String.

c. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Chamber Music-Woodwind.

d. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Chamber Music-Brass.

e. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Chamber Music-Percussion.

f. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Chamber Music-Keyboards.

g. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) Chamber Music-Classical Guitar.

370-2 American Folk Music. American folk music from its foreign heritage to its current manifestations.

372-3 The Music of Black Americans. (Same as Black American Studies 362.) The study of the music created and produced by black people in the United States. Content ranges from work songs and spirituals through contemporary classical music. Although jazz is not ignored, primary focus is on other styles and genres. Some emphasis upon the environmental forces which shaped the music. Historically oriented.

373-3 Rock and Pop Music. Study of "rock" and other popular American music. Evolution of both black and white folk music is shown. Rock is studied as the merging of aspects of these two folk mainstreams. Major figures in rock are studied. Lectures, "live" and recorded demonstrations, films, and individual projects will be used.

374-3 Music Merchandising I. A study and investigation of domestic and international copyright protection, the publishing and distribution of music, and investigation of recorded music. Prerequisite: sophomore standing and permission of instructor.

375-3 Music Merchandising II. Continuation of 374, emphasizing continued study of the record industry, performed music and performance rights, musical instruments manufacture, and an investigation of wholesale and retail procedures. Prerequisite: 374.

398-1 to 2 (1, 1) Partial Recital. Preparation and presentation of a partial recital in any applied field. Prerequisite: prior or concurrent registration in 340 and approval of applied jury.

399-5 (1, 1, 1, 1, 1) Graduate Preparatory Seminar. (a) Music analysis, (b) Aural techniques, (c) Pre-Baroque, (d) Baroque and Classical, (e) Romantic and Modern. Designed to supply understanding and skills where deficiencies have been shown by the graduate proficiency examinations in music. Part or all may be taken in any sequence. Prerequisite: prior assignment by graduate committee in music.

400-1 to 2 (1, 1) Performance Techniques. Individual instruction in any secondary applied field. Designed to provide added depth of preparation for teaching instrumental and vocal music. Prerequisite: completion of 340 level or the equivalent in some field of applied music.

407-2 Modal Counterpoint. Study of Renaissance contrapuntal techniques. Extensive writing practice, and analysis of stylistic models. Prerequisite: 207.

410-6 (3, 3) Ethnomusicology. (Same as Anthropology 410h, i.) (h) Oceania, Asia, and Africa, (i) Middle East, Europe, and the New World.

414-1 to 8 (1 to 2 per semester) Collegium Musicum. For experienced singers and instrumentalists. Emphasis upon practical study of historical music literature of the Medieval, Renaissance, and Baroque eras. Counts as a "major ensemble" for juniors and seniors.

- 420-1 to 2 (1, 1) Instrument Repair.** A shop-laboratory course dealing with the selection, tuning, adjustment, maintenance, and repair of musical instruments.
- 421-2 Advanced Analysis.** Structure, form, and design in music as the coherent organization of all of its factors. Analysis of works chosen from a variety of styles and genres. Prerequisite: 321.
- 430-1 Jazz Arranging.** Methods of scoring for popular groups. Practice in scoring arrangements and/or original compositions for jazz ensembles. Prerequisite: 324 or prior consent of instructor.
- 440-1, 2, or 4 Applied Music.** (See Music 040.)
- 447-4 (2, 2) Electronic Music.** (a) Introduction to classical studio equipment and techniques; use of voltage controlled equipment. Individual laboratory experience available. (b) Emphasis upon creative projects, more sophisticated sound experimentation, and analysis. Enrollment limited. Must be taken in a,b sequence. Prerequisite: 280 or GSA 361 or consent of instructor.
- 453-2 to 4 (2 per semester) Advanced Topics in Choral Music.** Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. For experienced teachers and advanced students.
- 454-2 to 4 (2 per semester) Advanced Topics in Instrumental Music.** Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.
- 455-2 to 4 (2 per semester) Advanced Topics in Elementary School Music.** Practicum in the selection and use of materials for the elementary school program. Study of techniques for achieving balanced musical growth. For experienced teachers and advanced students.
- 456-4 (2, 2) Music for Exceptional Children.** (Same as Special Education 456.) (a) Theories and techniques for therapeutic and recreational use of music with physically and mentally handicapped children. Includes keyboard, autoharp, guitar, and tuned and untuned classroom instruments. (b) Applications for the gifted, emotionally disturbed, and culturally disadvantaged child. Take in sequence. Prerequisite: 302 or prior consent of instructor.
- 460-3 Music Aesthetics and Appreciation.** The significance of music for people. Critical theories in the writings of philosophers of music and art from Plato through Dewey and Cage are related to principles and methods for communicating an understanding of music in schools and in society.
- 461-3 Applied Music Pedagogy.** Specialized problems and techniques employed in studio teaching of any particular field of musical performance. Study of music literature appropriate for the various levels of performance. Opportunity, as feasible, for supervised instruction of pupils. Meets with appropriate instructor, individually or in groups.
- 468-2 to 4 (2, 2) Music Productions.** Practicum in the techniques for staging operas and musicals.
- 472-2 Chamber Music Literature.** A study of literature for the principal types of chamber music groups.
- 475-3 Baroque Music.** The development of vocal and instrumental music in the period 1600-1750, from Monteverdi to Bach and Handel. Oratorio and Cantata, the influence of opera, sonata, suite, and concerto. Prerequisite: For undergraduate enrollment: 357a or b. For non-music majors: prior consent of instructor.
- 476-3 Classical Music.** Development of the sonata, symphony, concerto, and chamber music in the 18th and early 19th centuries, with emphasis on the music of Haydn, Mozart, and Beethoven. Prerequisite: For undergraduate enrollment: 357a or b. For non-music majors: prior consent of instructor.
- 477-3 Romantic Music.** Development of the symphony and sonata forms, chamber music, and vocal music in the 19th and early 20th centuries. Rise of nationalism and impressionism. Prerequisite: For undergraduate enrollment: 357a or b. For non-music majors: prior consent of instructor.
- 479-2 to 4 (2 per topic) Solo Performance Literature.** Topics presented will depend upon the needs of students and upon instructors scheduled. (a) piano literature, including an introductory study of harpsichord music; (b) organ literature, in relation to the history of the instrument; (c) song literature; (d) guitar and lute literature; (e) solo string literature; (f) solo wind literature.
- 480-2 to 4 (2, 2) Advanced Composition.** Original composition involving the larger media. Individual instruction. Prerequisite: 380-4.
- 481-1 to 4 Readings in Music Theory.** Assigned readings and reporting of materials pertaining to a particular phase of music theory in historical perspective. Approximately three hour's preparation per week per credit (adjusted for shorter sessions). Prerequisite: 321 and 322 or prior consent of instructor.
- 482-1 to 4 Readings in Music History and Literature.** Assigned readings and reporting of materials pertaining to a particular phase of history or literature. Approximately three hours preparation per week per credit. Prerequisite: 357a and b, or prior consent of instructor.
- 483-1 to 4 Readings in Music Education.** Assigned readings and reporting of materials

pertaining to a particular phase of music education. Approximately three hours preparation per week per credit (adjusted for shorter sessions.)

498-2 to 4 (2, 2) **Recital.** Preparation and presentation of a full solo recital in any applied field. Prerequisite: prior or concurrent registration in 440 and approval of applied jury.

499-1 to 8 **Independent Study.** Original investigation of selected problems in music and music education with faculty guidance. Project planned to occupy approximately three hours preparation per week per credit (adjusted for shorter sessions). Prerequisite: prior consent of selected instructor.

500-1 to 6 **Independent Investigation.**

501-3 **Music Bibliography and Research.**

502-4 (2, 2) **Analytic Techniques.**

503-3 **Scientific Evaluation and Research in Music.**

509-2 **History and Philosophy of Music Education.**

535-2 **Contemporary Idioms.**

540-1, 2, or 4 **Applied Music.**

545-3 **Pedagogy of Music Theory.**

550-2 **School Music Administration and Supervision.**

556-2 to 4 (2, 2) **Advanced Conducting.**

566-1 to 12 (1 or 2 per semester) **Ensemble.**

567-1 to 8 **Music Theater Workshop.**

568-1 to 16 (1 to 8 per semester) **Opera Workshop.**

570-3 **History of Opera.**

573-3 **Medieval Music.**

574-3 **Renaissance Music.**

578-3 **Twentieth Century Music.**

580-2 to 4 (2, 2) **Graduate Composition.**

595-2 **Music Document.**

598-4 **Graduate Recital.**

599-2 to 6 **Thesis.**

601-1 to 12 per semester **Continuing Research**

Nursing

(SEE ASSOCIATE DEGREE NURSING)

Nursing (Preprofessional Program)

The School of Nursing of Southern Illinois University at Edwardsville offers a program of study leading to a Bachelor of Science degree in nursing. The program is accredited by the National League of Nursing. The curriculum is designed to prepare qualified individuals to function competently as beginning professional nurse practitioners; to participate in providing a broad scope of health care in a variety of settings; to obtain a foundation for continued growth and graduate education. Professional nursing practice is broad in scope and serves individuals in a multiplicity of settings; thus the professional nurse functions in both traditional and non-traditional situations which may require conventional or innovative patterns of practice.

The first three semesters of the program may be completed at Southern Illinois University at Carbondale. During this time, the student must successfully complete all courses prerequisite to the nursing major. The student should then transfer to Southern Illinois University at Edwardsville. Admission to the university does not guarantee acceptance into the School of Nursing. Admission criteria for the school include (1) successful completion of prerequisite courses with grades of C or above, (2) minimum overall grade point average of 2.50, and (3) completed application on file in the School of Nursing within the time deadline. Students are admitted into the School of Nursing every quarter during the academic year. Information concerning required courses is available at the Pre-Major Academic Advisement Center in Woody Hall, Wing C.

Occupational Education

(SEE VOCATIONAL EDUCATION STUDIES.)

Paralegal Studies for Legal Administrators (Major)

The College of Liberal Arts will offer this major for the first time beginning with the fall 1983 semester. At the time copy for this catalog was prepared, the specific course and hour requirements for the major had not been finalized. For this reason only a general description of the program is provided here. Details are available from the academic advisement office of the College of Liberal Arts or the coordinator of paralegal studies for legal administrators.

The program leads to the Bachelor of Science degree in paralegal studies for legal administrators. It prepares the graduate to function as a paraprofessional in the legal profession and as a legal administrator in private practice, legal aid offices, or the law-related operations of business, industry, education, or government.

In overall philosophy as well as in curriculum content and format, the paralegal studies for legal administrators program is based on the proposed *Curriculum for the Training of Law Office Personnel* as stated by the American Bar Association Special Committee on Legal Assistants. The program has two components: a core of legal specialty, administration, and communication skills courses to provide professional competency and a range of social science and humanities courses to provide the intellectual background for the student's future professional life including an understanding of law and its function in society.

Bachelor of Science Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (see page 72.)	(4) + 8-14
<i>Requirements for Major in Paralegal Studies for Legal Administrators and Electives</i>	61-67
<i>Total</i>	120

Philosophy (Department, Major, Courses)

The student electing to major in philosophy should consult the department's director of undergraduate studies, who will then assign an adviser. Prospective students are advised to take at least one philosophy course at the 100 or 200 level.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72.)	(4) + 8-14
<i>Requirements for Major in Philosophy</i>	28
Philosophy 304 and 305	6
At least two of the following: Philosophy 300, 306, 320, 340, 342. . .	6
At least two 400-level philosophy courses	6-8
Philosophy electives to complete 28 hours, 6 of which may be selected from the 100 and 200 level	8-10
<i>Minor</i>	15

<i>Electives</i>	18-24
<i>Total</i>	120

Minor

A minor in philosophy requires 15 hours, 6 of which may be selected from philosophy courses offered at the 200 level and 6 of which should be selected from the courses listed above for the major. Philosophy 304 and 305 are recommended.¹

Honors

Honors in philosophy will be granted to eligible majors who successfully complete two semesters of Philosophy 397, maintain a 3.25 average in philosophy and a 3.00 overall grade point average, and have their written work in one Undergraduate Philosophy Seminar approved by a faculty committee.

Courses

200-3 Types of Philosophy: An Introduction. Survey of the traditional branches and problems of philosophy, such as religion, metaphysics, epistemology, ethics, political theory, aesthetics, and history. Elective Pass/Fail.

206-3 Philosophies of the Person. A survey and examination of selected theories of human nature, beginning with ancient and medieval philosophies and continuing into modern times with some consideration of scientific and ideological accounts. Elective Pass/Fail.

242-3 Morality and Law. An introduction to the moral issues raised and resolved by law creation and adjudication by legislators, judges, and administrative agencies at the state, national, and international level.

245-3 Sexual Morality. An examination of the relationship between various sexual practices and morality, including an examination of the functions of sex and the relationship between sex and love. Discussions will include such issues as monogamy, premarital sex, homosexuality, and rape. Elective Pass/Fail.

260-3 Philosophy and Literature. An exploration of leading philosophical themes and issues in significant works of literature, the course seeks to discover in what manner the literary medium contributes uniquely to our understanding of humanity in relation to the world.

275-2 Environmental Ethics. A consideration of alternative views about our relations to nature and the obligations, if any, that we have toward nature, future generations of people, and people in other countries. Examples from contemporary controversies about nuclear power, wilderness areas, etc., will be used to illustrate the views in question.

290-2 to 5 Special Problems. Individual or small group study of topics mutually agreed to by an instructor and students. Special topics announced from time to time. Students are invited to suggest topics.

300-3 Elementary Metaphysics. Presentation of answers to the most general problems of existence. An attempt to unify all scientific approaches to reality through the laying down of common principles. Elective Pass/Fail.

301-3 Philosophy of Religion. (Same as Religious Studies 301.) An analysis of problems in the psychology, metaphysics, and social effects of religion. Among topics discussed are the nature of mystical experience, the existence of God, and problems of suffering, prayer, and immortality. Elective Pass/Fail.

304-3 Ancient Philosophy. Survey of western philosophy from the pre-Socratics, Plato, and Aristotle through the Middle Ages. Elective Pass/Fail.

305-3 Modern Philosophy. A survey of western philosophy from Bacon and Descartes through Kant. Elective Pass/Fail.

306-3 Nineteenth Century Philosophy. Survey of 19th century European philosophy. Topics to be selected from the following: Hegel's philosophy; the subsequent reactions to Hegelianism in the forms of positivism, Marxism, and existentialism; British utilitarianism and idealism; neo-Kentian philosophies; and evolutionist philosophies. Elective Pass/Fail.

313-3 Classical Chinese Philosophy. Historical and comparative study of Confucianism, Taoism, Maoism, and Legalism. Elective Pass/Fail.

314-3 Modern Chinese Philosophy. Historical and comparative study of Mahayana Buddhism, Neo-Confucianism, and Maoism. Elective Pass/Fail.

320-3 Deductive Logic. Main forms of deductive inference. Emphasis on the use of the symbolism of modern logic to evaluate inferences. Elective Pass/Fail.

340-3 Ethical Theories. Nature of ethics and morality, ethical skepticism, emotivism, ethical

¹Students completing a minor in philosophy for purposes of obtaining teacher certification in the State of Illinois must complete a minimum of 18 semester hours in the minor area.

- relativism, and representative universalistic ethics. Bentham, Mill, Aristotle, Kant, Blanchard, and Brightman. Elective Pass/Fail.
- 342-3 Legal and Social Philosophy.** Discussion of contemporary institutions designed to achieve socially desirable goals (e.g., guaranteeing equality of opportunity, protecting individual liberties, assuring a fair distribution of wealth, minimizing violent behavior) and the philosophical theories that serve as the foundation for the continued existence or reform or abolition of these institutions (e.g., the theories of Hobbes, Marx, Mill, and Marcuse). Elective Pass/Fail.
- 344-3 The Biomedical Revolution and Ethics.** Changes in biology and medicine have brought into sharp focus such problems as allocation of scarce medical resources, use of human subjects in experiments, abortion, euthanasia, genetic screening, truth-telling in medical practice, moral rights of patients and other matters. This course brings ethical principles to bear on these issues.
- 355-3 Philosophy of Education.** (See Educational Leadership 354.) Elective Pass/Fail.
- 371-3 Introduction to Contemporary Phenomenology.** Introductory survey of individual thinkers and questions in the contemporary phenomenological tradition: Husserl, Sartre, Merleau-Ponty, Levinas, and Ricoeur. Elective Pass/Fail.
- 375-3 Philosophical Foundations of Ecology.** Study of the conceptual foundations of the ecological or environmental outlook, the differences that may exist between those foundations and other philosophical frameworks, and the possible changes in general patterns of thought that may result from the increasing importance and widening application of ecological sciences. Elective Pass/Fail.
- 378-3 Introduction to Marxist Theory.** An introduction to Marxist historical method and its effects on social theory, politics, aesthetics, literary criticism, psychology, philosophy, and economics. Classical texts from Lukacs to Althusser and examinations of critical questions in the social sciences provide the topics of the course.
- 389-3 Existential Philosophy.** Surveys the two main sources of existentialism, the life philosophies of Kierkegaard and Nietzsche and the phenomenology of Husserl, and introduces the major philosophical themes of representative thinkers: J.P. Sartre, M. Heidegger, G. Marcel, and others. Elective Pass/Fail.
- 397-8 (4,4) Undergraduate Philosophy Seminar.** Small group discussion of topics in philosophy.
- 400-3 Philosophy of Mind.** An investigation of the philosophic issues raised by several competing theories of mind, focusing on the fundamental debate between reductionistic accounts (e.g. central state materialism, identity theories of the physical and mental) and views which reject such proposed reductions. Traditional and contemporary theories will be examined. Designed for students in the life and social sciences with little or no background in philosophy as well as philosophy students. Elective Pass/Fail.
- 415-3 Logic of Social Sciences.** (Same as Sociology 415.) Logical and epistemological examination of the social sciences as types of knowledge. Basic problems in philosophy of science with major emphasis upon social science: relationship of theory to fact, nature of induction, nature of causal law, testability, influence of value judgments, etc. Intended for students with considerable maturity in a social science or in philosophy. Elective Pass/Fail.
- 420-3 Advanced Logic.** Study of topics in logical theory and/or formal logic not treated in 320. Prerequisite: 320. Elective Pass/Fail.
- 425-3 Philosophy of Language.** (Same as Speech Communication 465.) Introduction to basic problems in the philosophy of language, including alternative theories of meaning and reference and the relation between meaning and intention. Elective Pass/Fail.
- 426-3 Introduction to Mathematical Logic.** (See Mathematics 426.)
- 435-4 Scientific Method.** Critical survey of influential descriptions of scientific method, with emphasis on natural sciences. Topics include statistical and inductive probability, crucial experiments, explanation and prediction, interpretation of scientific terms and sentences, role of reasoning in discovery, and value judgments in research. Elective Pass/Fail.
- 441-4 Philosophy of Politics.** (Same as Political Science 403.) Some of the central problems of modern political life, such as sovereignty, world government, authority and consent, the relations of economics and social studies to political theory. Prerequisite: 340 or GSC 102 or consent of instructor. Elective Pass/Fail.
- 443-4 Philosophy of History.** Classical and contemporary reflections on the nature of history and historical knowledge as the basis for dealing with the humanities. Prerequisite: consent of instructor. Elective Pass/Fail.
- 446-3 Philosophical Perspectives on Women.** Survey of five different views of the relation of the concept of women to the philosophical concept of Human Nature. Elective Pass/Fail.
- 460-4 Philosophy of Art.** The definition of art, its relation to science, culture and morals; the various types of art defined. Familiarity with at least one of the fine arts is assumed. Elective Pass/Fail.
- 470-6 (3, 3) Greek Philosophy.** (a) Plato; (b) Aristotle. Prerequisite: 304 or consent of instructor. Elective Pass/Fail.
- 471-4 Medieval Philosophy.** Prerequisite: 304 or consent of instructor. Elective Pass/Fail.

- 472-4 **The Rationalists.** Study of one or more of the following: Descartes, Malebranche, Spinoza, Leibniz, Wolff. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.
- 473-6 (3, 3) **The Empiricists.** (a) Locke; (b) Hume. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.
- 474-9 (3, 3, 3) **19th Century Philosophers.** (a) Kant; (b) Hegel; (c) Marx. Prerequisite: 306 or consent of instructor.
- 475-3 **Chinese Philosophy.** Confucianism, Taoism, or Buddhism. Emphasis on comparison of philosophy East and West. Elective Pass/Fail.
- 482-3 **Recent European Philosophy.** Philosophical trends in Europe from the end of the 19th Century to the present. Phenomenology, existentialism, the new Marxism, structuralism, and other developments. Language, history, culture and politics. Elective Pass/Fail.
- 486-3 **Early American Philosophy.** From the Colonial period to the Civil War. Elective Pass/Fail.
- 487-3 **Recent American Philosophy.** Thought of realists, idealists, and pragmatists, such as Royce, Santayana, Peirce, James, Dewey, and others. Elective Pass/Fail.
- 490-2 to 8 **Special Problems.** Hours and credits to be arranged. Courses for qualified students who need to pursue certain topics further than regularly titled courses permit. Special topics announced from time to time. Students are invited to suggest topics. Prerequisite: consent of department.
- 491-1 to 3 **Undergraduate Directed Readings.** Supervised readings for qualified students. Open to undergraduates only. Prerequisite: consent of instructor.
- 496-2 to 4 **Independent Studies in Classics** (See Classics 496.)
- 500-3 **Metaphysics.**
- 501-3 **Philosophy of Religion.**
- 503-3 **Philosophical Ideas in Literature.**
- 515-3 **Theory of Nature.**
- 524-6 (3, 3) **Analytic Philosophy.**
- 528-3 **Social and Economic Philosophy.**
- 530-3 **Theory of Knowledge.**
- 531-3 **Whitehead.**
- 542-3 **Political and Legal Philosophy.**
- 545-3 **Ethics.**
- 560-3 **Aesthetics.**
- 562-3 **Philosophy of Human Communication.**
- 570-3 **American Idealism.**
- 575-3 to 9 (3 per topic) **Contemporary Continental Philosophy.**
- 577-6 (3, 3) **Pragmatism.**
- 581-3 **Plato.**
- 582-3 **Aristotle.**
- 587-3 **Kant.**
- 588-3 **Hegel.**
- 590-2 to 12 (2 to 4 per topic) **General Graduate Seminar.**
- 591-1 to 16 **Readings in Philosophy.**
- 595-2 **Teaching Philosophy.**
- 599-2 to 6 **Thesis.**
- 600-3 to 32 (3 to 16 per semester) **Dissertation.**
- 601-1 to 12 per semester **Continuing Research.**

Photographic Production Technology (Program, Major)

The photographic production technology program in the School of Technical Careers is a two-year program recognized by Photo Marketing Association International.

Technical photographic courses are designed to prepare students as photographic laboratory technicians or photo finishers in industrial and commercial photographic processing agencies. Emphasis is placed on quality black and white and color photographic processes and materials. Students will study photographic techniques in lecture/laboratory sessions and tour industrial and commercial photographic processing agencies to obtain practical understanding of commercial systems. The student should expect to invest approximately \$600 for the production of a portfolio and for the purchase of special photo chemicals and supplies. Students are to provide their own fully adjustable cameras.

The following representatives of the profession serve on an advisory committee which helps to keep the program responsive to the needs in the field. Current

advisers are: Oscar Fisher, president, Oscar Fisher Company, Newburgh, N. Y.; Gary Rossman, director of education, Photo Marketing Association, Jackson, Mich.; Sam Fox, president, Ethol Chemical Company, Chicago, Ill.; Norbert Dompke, president, Root Photographers, Chicago, Ill.; John Bellezza, sales manager, Root Photographers, Chicago, Ill.; Don Beyer, director, photographic services, Standard Oil, Chicago, Ill.; David Goldstein, president, D. O. Industries, Rochester, N. Y.

Students will find job opportunities throughout industry for quality technicians. Graduates are limited only by their own talent, motivation, and willingness to move to where jobs are available. Job pay is directly commensurate with the technician's ability, resourcefulness, and drive.

A minimum of 64 credit hours is required for the major in photographic production technology. This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

<i>Requirements for Major in Photographic Production Technology</i>	
GSA 106	3
GSD 101, 113, 152	7
GSB 305	3
Electronic Data Processing 217	3
Secretarial and Office Specialties 100	2
Photographic Production Technology 111, 113, 115, 209, 211, 215, 221, 251a, b	46
Total	64

Courses

- 109-2 Illustration and Product Photography.** An introductory photography course specifically designed for commercial graphics — design majors. Instruction which will emphasize product photography will include a study of camera controls, films, and lighting techniques. Polaroid film will be the primary photographic material used in this course. Lecture one hour, lab four hours.
- 111-4 Photo Processing I.** Introduction to photo processing via the medium of black and white photography. Students will receive extensive darkroom work, film processing chemistry, and technical photographic assignments essential to the production of quality black and white prints. Lecture two hours, lab four hours.
- 113-4 Photo Processing II.** An introduction to sensitized materials, processing techniques and quality control procedures in common use within the photofinishing industry. Students will perform basic sensitometric and quality control procedures to a variety of black and white and color material.
- 115-4 Photo Equipment Operation.** An introduction to the equipment and operation of commercial photofinishing labs. Students will gain experience in operation, maintenance and troubleshooting on various types of processing and printing equipment. Lecture two hours, lab four hours.
- 209-4 Graphics for Photography.** Students will develop basic skills in print finishing, retouching and restoration for black and white and color materials. The course is designed to acquaint students with current techniques and processes used by commercial processing labs. Lecture two hours, lab four hours.
- 211-6 Photo Processing III.** Color reversal material. An advanced course dealing with material. Students will be involved with processing and finishing techniques common to the photofinishing industry. Lecture two hours, lab six hours. Prerequisite: 113 and 115.
- 215-6 Photo Processing IV.** Students will process and print color negatives using commercial lab techniques. Emphasis will be placed on quality control in film processing, chemical replenishing, and distribution of final product. Lecture three hours, lab six hours.
- 221-6 Photo Processing V.** Advanced black and white photo processing. Students will refine skills necessary for quality film processing and printing requirements of both small individual photo labs and commercial labs. Emphasis will be on methods essential to meet specialized customer requirements. Lecture three hours, lab six hours. Prerequisite: 111.
- 251-1 to 12 (1 to 3, 2 to 9) Photo Lab Management.** Students will study the personnel and financial aspects of operating a commercial photo lab. Field trips will be taken to industrial.

commercial, and general photo agencies to obtain first-hand knowledge of operations. An industrial planning package is required by each student. (a) Lecture one to three hours, (b) lab four to eighteen hours. Prerequisite: program advisor's committee consent.

Physical Education (Department, Major, Courses)

The major in physical education qualifies graduates for positions as teachers, coaches, or specialists in public or private elementary and secondary schools, colleges, and universities, as well as in other social agencies which utilize physical activities as a medium for education. Courses are designed to meet the requirements of state departments of education and other agencies which have adopted professional standards. The laboratory and classroom experiences in this program consist of the basic and applied sciences; classes in physical skills include a large variety of team and individual activities from sport, exercise, and dance; and courses in methods of teaching.

Additional experience may be gained through membership in professional organizations, participation on intramural and inter-collegiate teams, and through practicum experiences with service classes or with recreational and school groups.

Specializations, minors, or emphases are also available in the following areas: adapted physical education, aquatics, athletic coaching, athletic training, dance, teaching physical education in elementary schools, and teaching physical education in elementary and secondary schools. Requirements are based upon the interests and needs of the student and are consistent with certification standards. Students not interested in teacher certification may develop a special major with approval of the designated departmental representative.

In all programs, students are in contact with faculty whose reputations are nationally and internationally known and whose achievements encompass research, teaching, and service.

The student must complete all prerequisite courses with a grade of C or better.

Prior to registration for the student teaching assignment, students majoring in physical education must (1) achieve 2.25 grade point average in all required courses in the major program at Southern Illinois University at Carbondale and (2) complete at least 75% of the physical education courses in each of the following areas: physical activity, 9 semester hours; methods of teaching, 6 semester hours; and theory, 15 semester hours.

Bachelor of Science Degree, College of Education

<i>General Studies Requirements</i>	45
GSA 209, GSE 201, and 2 GSE-Physical Education courses ¹	
<i>Requirements for Major in Physical Education</i>	(2) + 49
Physical Education 115a, b, c, d, e; three hours required from 116a, b, c, d, e, f; one hour required from 117a, b, c; one hour required from 118a, b, c, d, e; one hour required from 119a, c; one hour required from 120a, b, c, d, e, f; 210; 211; 212; 214; 300; 301; 303; 305; 320; 326; 370; and one hour required from each of four of the following five areas: 215 b, c, d; 216a, b, c, d, e; 217a, b, c; 218a, b; 220a, b, c, d	(2) + 46
Physiology 300	3
<i>Electives</i>	12
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Total</i>	121

¹Physical education activity courses may substitute for GSE courses.

Minor in Physical Education

A student with a minor in physical education in secondary education must complete the following courses:

<i>Required Activity Courses</i>	10
Physical Education 115a, 115b, 115c	6
Two sports selected from Physical Education 116a, 116b, 116c, 116d, 116e, 116f	2
Two sports selected from Physical Education 117, 119, 120	2
<i>Required Methods Courses</i>	4
Physical Education 211, 212	2
Two hours selected from 215, 216, 217, 218, 220	2
<i>Required Theory Courses</i>	26
Physical Education 210, 301, 303, 305, 320, 326, 370	20
Physiology 300	3
GSA 209 (May be counted toward General Studies)	3
<i>Total</i>	40

Minor in Aquatics

A student must have advanced swimming skill, a current American Red Cross Advanced Lifesaving certificate, and a current Red Cross Water Safety Instructor certificate in order to enter the program. A student without those qualifications must complete GSE 101f and Physical Education 306 and 307 in addition to the requirements listed below.

Physical Education 208, 310, 311, 355a, 418	11
Eight hours selected from Physical Education 308a, b, c, d, e, or 330c	8
<i>Total</i>	19

Minor in Athletic Training

Students in physical education with a minor in athletic training must complete the following requirements for retention in the minor: (1) 2.5 grade point average; (2) *B* in Physiology 300; (3) *B* in Physical Education 225; and (4) complete 800 hours of clinical experience supervised by a certified trainer at Southern Illinois University at Carbondale.

Requirements for the minor are listed below.

<i>General Studies Requirements</i>	12
GSA 208 and 209, GSB 202, GSD 153, and GSE 201	
<i>Physical Education Requirements</i>	22
Physical Education 225, 303, 305, 320, 325, 326, 327, 328a,b, 355d	
<i>Other Requirements</i>	18
Psychology 303, Health Education 334 and 434, Food and Nutrition 100, Physical Therapist Assistant 208, Physiology 300	
<i>Total</i>	52

Minor in Coaching

For a minor in coaching, a student must complete the physical education requirements and a coaching sequence described below.

<i>Physical Education Requirements</i>	23
Physical Education 119-2, 210, 211, 303, 320, 326, 345	17
Physiology 300	3
GSA 209 (May be counted toward General Studies)	3
<i>Coaching Sequence Requirements</i>	6-7.5
Select one course from each of the following categories consistent with the planned coaching sport.	
A. Physical Education 115, 116, 117, 119, 120, 125, 135, 306 or proficiency in the specific sport or 170 (specific varsity sport)	1-2
B. Physical Education 215, 216, 217, 220 (210 and 211 are prerequisite)	1
C. Physical Education 330	2
D. Physical Education 355c	2
E. Physical Education 360 or current official's rating	(0)-.5
<i>Total</i>	29-30.5

Minor in Dance

A student may complete a minor in dance by selecting one of the three emphases below.

1. Intended for the student whose primary interest is in the area of ballet and modern dance.

<i>Technique Courses</i>	13
Physical Education 140a, b, 150a, b, 240a, b One hour from GSE 103a, b, c, Physical Education 118b, c, d	
<i>Methods and Theory Courses</i>	17
Physical Education 115b, 273a, b, 304, 313, 379, 416	
<i>Public dance performance required.</i>	

<i>Total</i>	30
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2. Intended for the student whose primary interest is in the teaching of folk, square or social dance to students of all ages.

<i>Technique Courses</i>	11
GSE 103d, g, h, Physical Education 140a, 273a One hour from GSE 103a, b, c, Physical Education 118b, c, d	
<i>Methods and Theory Courses</i>	17
Physical Education 115b, 200, 210, 211, 212, 304, 313, 355e, and 218a or b	

<i>Total</i>	28
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3. Intended for the student interested in teaching in privately owned studios, recreation organizations or community theater program this emphasis provides a broad background in dance techniques as well as teaching methods.

<i>Technique Courses</i>	11
GSE 103g, h, Physical Education 140b, 150a, b, and 140a or GSE 103d One hour from GSE 103a, b, c, Physical Education 118b, c, d	
<i>Methods and Theory Courses</i>	14
Physical Education 115b, 304, 313, 416, and 273a or b Two hours of elective dance courses	
<i>Public dance performance required</i>	

<i>Total</i>	25
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Courses

100-1 Introduction to Physical Education. An orientation to the profession, including rela-

tionships of physical education to education, current trends and practices, and career opportunities.

115-2 (2 per part) Development of Skill and Identification of Teaching Techniques of Physical Activities. (a) Aquatics. Prerequisite: GSE 101a or consent of instructor. (b) Rhythm and dance. (c) Exercise, conditioning, and weight training. Introduces the student to basic exercise and conditioning with a practical emphasis. When appropriate the methods of teaching as related to the content will be incorporated. (d) Track and field. (e) Tumbling and gymnastics.

116-1 (per part) Development of Skill and Identification of Teaching Techniques of Team Sports. (a) Basketball. (b) Field hockey. (c) Flag football. (d) Soccer. (e) Softball. (f) Volleyball.

117-1 (per part) Development of Skill and Identification of Teaching Techniques of Racquet Sports. (a) Badminton. (b) Handball/racquetball. (c) Tennis.

118-1 (per part) Development of Skill and Identification of Dance. (a) Contemporary. (b) Folk. (c) Social. (d) Square. (e) Tap. Prerequisite: 115b.

119-1 (per part) Development of Skill and Identification of Teaching Techniques of Combatives and Weight Training. (a) Self defense. (c) Wrestling.

120-1 (per part) Development of Skill and Identification of Individual and Dual Activities. (a) Archery. (b) Boating. Prerequisite: maintaining safe position in deep water for ten minutes. (c) Bowling. (d) Fencing. (e) Golf. (f) Orienteering.

125-1 (per part) Intermediate Sport Skills. (a) Fencing. Prerequisite: 120d, GSE 104f, or consent. (b) Golf. Prerequisite: 120e, GSE 104h, or consent. (c) Sailing. Prerequisite: consent. (d) Tennis. Prerequisite: 117c, GSE 104n, or consent.

135-1 to 3 (per part) Advanced Level Sport Skills. (a) Distance running. (b) Folk dance. (c) Gymnastics. (d) Kodokan Judo. (e) Orienteering. (f) Scuba. (g) Self defense. Prerequisite: consent of instructor.

140A-2 Beginning Modern Dance. Technique I (semester one). Emphasis placed on proper body alignment and mechanics of breathing and phrasing, vocabulary and terminology, improvisation, and creative movement. Offered fall semester.

140B-2 Beginning Modern Dance. Technique II (2nd semester). Offered spring semester. Prerequisite: 140A or GSE 103D and consent of instructor.

150A-2 Beginning Classical Ballet. Technique (semester one). An introduction to the traditional techniques of the classical dance as an academic craft and style that serves as a basis for logical physical training of the dancer, choreographer, and the teacher. Terminology employed to represent definite positions, steps, and movements to permit transmission of ideas in dance terms to offer the beginner an initial chart for understanding of traditional steps and complete phrases in the classical ballet idiom.

150B-2 Beginning Classical Ballet. Ballet Technique (semester one). Continued study of the beginning syllabus with emphasis placed on center practice. Prerequisite: 150A and consent of instructor.

170-2-4 (2 per part) Varsity Sports. (a) Football. (b) Basketball. (c) Track. (d) Tennis. (e) Gymnastics. (f) Baseball. (g) Golf. (h) Swimming and diving. (i) Cross country. (j) Wrestling. (k) Field Hockey. (l) Softball. (m) Volleyball. (n) Badminton. Prerequisite: participation as member of a varsity team. Mandatory Pass/Fail.

200-2 Body Mechanics and Exploratory Movement in Physical Activities for Primary Children. Provides a comprehensive coverage of the educational elements in basic movement education, its interpretation, analysis, terminology, structure, methods of teaching, and evaluative techniques. Observatory experiences provided.

201-3 Fundamental Skills and Activities of Low Organization for Children. Presents the entire scope of the physical education program for children in the intermediate grades. Course objectives, program planning, facilities, supplies and equipment, the basic activities representative of a comprehensive sports and games program, and the design of progress reports. Observatory experiences provided.

202-3 Physical Activities for Children and Youth. Developing activities for motor perceptual development and skill acquisition appropriate for different age levels of children and youth. Tennis shoes required. Dress must permit ease of movement. Prerequisite: at least sophomore standing.

205-1 Physical Problems of the School Age Student. Reviews the common physical disabilities which occur in children. Examines both acute and chronic injuries and diseases with reference to the type of physical activities best adopted by the physical problems. Prerequisite: Physiology 300.

207-2 History of Physical Education. The background and development of physical education.

208-3 Instructor of Swimming. Designed to prepare the student to teach beginning swimming through lifesaving to pre-school through adult groups.

210-3 Motor Learning. Presents the basic learning principles which underlie motor skill performances associated with physical activity and sports and examines the variables affecting skill learning. Prerequisite: at least sophomore standing.

211-1 Method of Teaching Secondary School Physical Education. Involves a clinical experience as pre-student teaching in which the assignment may be to instructional classes in school or college or to children in community sponsored programs. Prerequisite: 210, and at least sophomore standing.

- 212-1 Teaching Practicum.** Laboratory experience with children in a school, or recreational setting or assisting in a GSE course at the University. Laboratory experience may also be arranged with special populations of children. Prerequisite: 211. Mandatory Pass/Fail.
- 214-3 Methods of Teaching Elementary Physical Education.** For supervisors and teachers of physical education. Curriculum planning based on grade characteristics and educational philosophy, presentation of skills including skill tests, lead-up games, stunts and tumbling, games of low organization, creative rhythms, singing games, and folk dance. Second level (advanced course 314). Tennis shoes and appropriate dress for activity required. Open only to physical education majors. Prerequisite: 210, and at least sophomore standing.
- 215-(1 per part) Methods of Teaching Physical Education Activities.** (b) Swimming. (c) Track and field. (d) Tumbling and gymnastics. Prerequisite: 211, and the corresponding 115 course.
- 216-(1 per part) Methods of Teaching Team Sports.** (a) Basketball. (b) Field hockey. (c) Soccer. (d) Softball. (e) Volleyball. Prerequisite: 211, and corresponding 116 course.
- 217-(1 per part) Methods of Teaching Racquet Sports.** (a) Badminton. (b) Handball/racquetball. (c) Tennis. Prerequisite: 211, and corresponding 117 course.
- 218-(1 per part) Methods of Teaching Dance.** (a) Modern. (b) Folk, square, social. Prerequisite: 211, and corresponding course.
- 220-(1 per part) Methods of Teaching Individual and Dual Activities.** (a) Archery. (b) Bowling. (c) Golf. (d) Wrestling. Prerequisite: 211, and corresponding 120 course.
- 223-1 Techniques of Teaching Recreational Sports.** Analysis and methods of teaching recreational sports. Prerequisite: 210.
- 225-2 Introduction to Athletic Training.** Designed for the non-physical education major who desires to acquire the minimum essentials for athletic training. Principle of training and conditioning, the injury conditions in various body parts, and primary treatment procedures.
- 226-1 Taping Techniques.** To familiarize the student with all aspects of taping including practice taping experience for athletic injuries.
- 240A-2 Intermediate Modern Dance.** Technique I (semester one). Emphasis placed on movement which is problematic to the individual. Focus placed on technique, style, and creative movement. Offered fall semester. Prerequisite: 140B and consent of instructor.
- 240B-2 Intermediate Modern Dance.** Technique II (2nd semester). Continuation of 240A. Offered spring semester. Prerequisite: 240A and consent of instructor.
- 250A-2 Intermediate Classical Ballet.** Ballet Technique (semester one). Progressive training toward mastery of body mechanics of the classical ballet syllabus, a continuation of syllabus work and terminology with emphasis on center practice — adagio, allegro, and movements en l'air. Prerequisite: 150B and consent of instructor.
- 250B-2 Intermediate Classical Ballet.** Ballet-Technique (2nd semester). Continued study of the intermediate syllabus. Prerequisite: 250A and consent of instructor.
- 257-1 to 5 Current Work Experience.** The student receives credit for current work experiences. Credit is awarded for many practical experiences and must be related to physical education and in process. Prerequisite: at least C average in physical education after 12 hours. Mandatory Pass/Fail.
- 258-1 to 5 Work Experience.** The student receives credit for past work experiences. Credit is awarded for many practical experiences and must be related to physical education and already completed. Prerequisite: at least C average in physical education courses after 12 hours.
- 273-4 (2, 2) History of the Dance.** (a) The study of dance from primitive sources through the 19th century. (b) Dance as an art form in the 20th century.
- 300-2 Principles of Physical Education.** Designs a structure of knowledge which underlies the practice of physical education with particular reference to a philosophical framework which embraces the moral and ethical values related to the function of personnel in the environment of physical education and competitive sport.
- 301-2 Organization and Administration of Physical Education.** Consideration of the special problems related to the organization and administration of the curriculum, facilities and equipment, personnel management, budget making, legal liability, and public relations.
- 302-2 Kinesiology of Normal and Pathological Conditions.** Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical activities. Prerequisite: Physiology 300.
- 303-3 Kinesiology.** Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical education activities. Prerequisite: Physiology 300.
- 304-2 Mechanical Basis of Human Movement.** Applies body mechanics with application of mechanical laws and principles to performance in physical activities.
- 305-3 Physical Education for Special Populations.** An introductory course designed to provide the regular physical education teacher with the minimal competencies needed to teach the mildly handicapped student in the mainstreamed class. The course will also aid the special education classroom teacher in delivering physical education services. Prerequisite: at least junior standing.
- 306-1 Advanced Swimming, Skill and Analysis.** Prerequisite: GSE 101b or equivalent.
- 307-2 Water Safety Instructor.** Methods of teaching swimming and lifesaving. American Red Cross Water Safety Instructor certificate may be earned. Bathing cap recommended.

Pool suit supplied or one piece nylon tank suit required. Prerequisite: 306 and current Red Cross advanced lifesaving certification. Elective Pass/Fail.

308-2 to 10 (2, 2, 2, 2, 2) Instructor of Aquatics. (a) Handicapped. (b) Skin diving. (c) Scuba diving. (d) Canoeing. (e) Swimming. Prerequisite: consent of instructor.

310-2 Aquatics Facilities Management. Learning experiences designed to aid in the development of aquatic specialists who can efficiently work toward satisfactory solutions to the problems inherent in functional design, operation, and maintenance of aquatic facilities that are associated with schools, municipalities, and other organizations.

311-2 Lifeguarding. The skills and techniques for preparing selected individuals related to the aquatic lifeguarding task and training in the specifics of being a part of the aquatic lifeguarding system. Prerequisite: pass swimming test.

312-3 Dance Philosophies. An extensive survey of past and present choreographers and dance specialists whose movement theories and philosophies have been most influential in the continuing creative growth of dance as an art form.

313-3 Dance Composition. Introduction to choreography as an art form with special emphasis given to the use of space, time, and energy. Prerequisite: four semesters of dance technique.

314-2 Advanced Methods of Teaching Elementary Schools (Physical Education). Prerequisite: 202 or 214.

320-3 Physiological Basis of Human Movement. Immediate and long range effects of muscular activity on the systems. Integrative nature of body functions and environmental influences on human performance efficiency. Laboratory to be arranged. Prerequisite: GSA 209 or equivalent.

324-2 Advanced Methods of Teaching Special Populations. Prerequisite: 305.

325-2 Training Room Techniques. Intended for the student who wishes to complete a specialty as athletic trainer. Provides knowledge concerning the organization and administration of a training room, the installation and use of its modalities, and general procedures on training room operational functions. Prerequisite: Physiology 300.

326-3 Emergency Care and Prevention of Athletic Injuries. The theoretical and practical methods of preventing and treating athletic injuries; techniques of taping and bandaging; emergency first aid; massage; use of physical therapy modalities. Lecture and laboratory sessions. Prerequisite: Physiology 300.

327-2 Medical Aspects of Athletic Injury. The student will acquire an advanced understanding of the proper prevention and rehabilitation of athletic injuries. The student will also understand medical and surgical procedures and their consequent factors to be considered in treatment programs. Prerequisite: 326.

328-2 (1, 1) Field Experience in Athletic Training. The student will be responsible for prevention of injuries, taping, rehabilitation, evaluation, and coverage of practices and games for an intercollegiate athletic sport. Prerequisite: 327 and permission by athletic training program coordinator. Elective Pass/Fail.

329-2 Principles and Procedures for the Conduct of Interscholastic Athletics. An examination of the history, values, and trends in extracurricular sports programs. A review of regulations and standards as determined by the governing bodies for men's and women's sports and an in-depth study of coaching and administrative procedures. Prerequisite: competitive experience recommended and consent of instructor.

330-2-26 (2 per part) Techniques and Theory of Coaching. (a) Basketball. (b) Football. (c) Swimming. (d) Baseball. (e) Track and field. (f) Wrestling. (g) Tennis. (h) Gymnastics. (i) Golf. (j) Badminton. (k) Field hockey. (l) Softball. (m) Volleyball. Prerequisite: consent of instructor.

340A-2 to 4 (2, 2) Advanced Modern Dance. Technique I, semester one. Emphasis on technical and style development. Students assigned work in creative movement and performance. Prerequisite: 240B and consent of instructor.

340B-2 to 4 (2, 2) Advanced Modern Dance. Technique II, 2nd semester. Offered Spring semester. Continuation of 340A. Prerequisite: 340A and consent of instructor.

345-2 Psycho-Socio Aspects of Physical Education. Provides an overview of the key sociological and psychological concepts that are applicable to athletics and to physical activity. This course is intended as an introduction to the disciplines of sociology of sport and sport psychology. Prerequisite: junior standing.

350A-2 to 4 (2, 2) Advanced Classical Ballet. Ballet technique, semester one. Study of the advanced classical ballet syllabus. Attention to the individual progress in center practice: adagio, allegro, steps en l'air, and enchainment. Applications of the classical technique as a means of expression as an art form. Prerequisite: 250B and consent of instructor.

350B-2 to 4 (2, 2) Advanced Classical Ballet. Ballet technique, 2nd semester. Continued study of the advanced syllabus. Introduction to variations sur la pointe (women) Pas de deux. Prerequisite: 350A and consent of instructor.

355-2 to 10 (2, 2, 2, 2, 2) Practicum. (a) Aquatics. (b) Special Populations. (c) Coaching. (d) Athletic Training. (e) Dance.

360-.5 to 2 (5 per part) Theory of Officiating. (a) Badminton. (b) Basketball. (c) Field hockey. (d) Football. (e) Gymnastics. (f) Softball. (g) Competitive swimming. (h) Synchronized swimming. (i) Track and field. (j) Volleyball. (k) Wrestling. Prerequisite: the corresponding activity course.

362-1 to 2 Teaching Physical Education Activities. Teaching various activities in the area of sport with specific emphasis on current methods and approaches to learning physical education skills. Elective Pass/Fail.

369-2 Improving Teaching Through Testing (Workshop). Teaching aids, diagnostic measures, practices, and standardized tests for a variety of physical skills. Principles of programmed learning applied to psychomotor tasks.

370-3 Measurement and Evaluation in Physical Education. The theory of measurement in physical education, the selection and administration of appropriate tests of motor skills and the interpretation of results. Projects required. Prerequisite: junior standing.

375-2 Introduction to Professional Literature in Physical Education. An introduction to the professional literature in physical education with emphasis on the reading of research-oriented journals. Prerequisite: senior standing.

379-3 Advanced Dance Composition. Development of compositional skills, choreographic techniques for large groups, mastery of the solo dance, form, and individual movement problems choreographed and performed. Prerequisite: 313.

380-2 Aerobics. A study of theoretical and practical framework within which the concepts of aerobic fitness exist. Both an evaluation and a hands-on experience with the direct and indirect procedures commonly used to determine oxygen uptake capacity and aerobic power. A thorough discussion of the meaning of aerobic fitness as it applies to general fitness of the adult and aging person. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

381-2 Exercise and Weight Control. A theory practicum course dealing with the interrelationships of exercise and diet as factors influencing weight control. Emphasis on the practical delivery of programs of weight control in the context of adult programs of physical fitness. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

382-3 Graded Cardiovascular Testing and Exercise Prescription. A study of the controlled use of exercise to evaluate the cardiovascular function of an adult population and in specific persons of middle and older aged groups. The scientific basis of recommending exercise programs as a prevention rather than a treatment of heart disease will be stressed. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

400-3 Evaluation in Physical Education. Historical background of measurement in physical education; selection and evaluation of contemporary testing devices (predominantly tests of motor skill); structure and use of tests; administering the testing program; and statistical manipulation and interpretation and application of results.

402-2 Organization and Administration of Intramural and Extramural Activities. Planning intramural programs of sports. Planning and coordinating extramural activities commonly associated with physical education.

403-3 Individualizing Physical Education Instruction for Students with Special Needs. Designed as an introductory survey of handicapping conditions found most often in the regular class setting with implications for physical education instruction. Emphasis is placed on a diagnostic-prescriptive teaching model. Students will learn to plan, implement, and evaluate quality physical education services to handicapped students. Prerequisite: graduate standing or consent of instructor.

404-2 The Teaching of Sports. Principles of learning applied to selected sports; progressions, teaching methods, and related summaries of research.

407-2 Advanced Theory and Techniques in the Prevention and Rehabilitation of Athletic Injuries. The application of scientific principles to the theoretical and practical methods of preventing and treating athletic injuries.

408-2 Physical Fitness: Its Role and Application in Education. An analysis of physical fitness as it relates to the total well-being of people. Specific units on the fitness parameters, hypokinetic disease and physical inactivity, stress, current level of fitness, training programs, and the beneficial aspects of regular exercise. Major emphasis is placed upon incorporating current thinking on physical fitness into the development of teaching models.

409-3 Social Aspects of Sport and Physical Activity. This course presents an analysis of the social implications of sport on society and includes consideration of sports in relation to sexual identifications, women, minority groups, politics, political activism, social deviance, and other related areas.

410-3 Behavioral Analysis of Sport. Application of sport psychology principles and theories to athletic situations in order to better understand sport related behavior. Behavioral problems related to sport are discussed, with a goal of enhancing athletic performance through the creation of a positive sport environment.

415-1 to 6 (1 per topic) Workshop in Sports. A concentrated experience in the latest theories and techniques of selected sports activities. Emphasis is placed on individual and team drills, instructional materials and improved teaching methods. One semester hour for each workshop. A total of four hours only of such workshop experience may be credited toward the master's degree. Workshop titles are: (a) Baseball. (b) Basketball. (c) Field hockey. (d) Football. (e) Gymnastics. (f) Soccer. (g) Softball. (h) Swimming. (i) Track and field. (j) Volleyball. (k) Tennis. (l) Athletic training.

416-3 Current Theories and Practices in the Teaching of Dance. Designed to aid a critical evaluation and analysis of dance as an educational tool, from creative dance for children through dance in the University curriculum. Specific techniques, creative ideas, class organization, and general evaluation will be included. Notebook required. Prerequisite: four semesters of dance technique.

418-2 Administration of Aquatics. The study of comprehensive aquatic programs, their implementation and coordination.

420-3 Physiological Effects of Motor Activity. The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system. Requires purchase of laboratory manual. Prerequisite: GSA 209 or equivalent.

444-2 to 6 Contemporary Dance Workshop. Dance technique and theory, composition, improvisation, and production. Advanced study of the problems of choreography and production in their presentation as theater. Public performance is required. Prerequisite: one year of technique and theory or equivalent.

493-2 to 4 Individual Research. The selection, investigation, and writing of a research topic under supervision of an instructor. (a) Dance. (b) Kinesiology. (c) Measurement. (d) Motor development. (e) Physiology of exercise. (f) History and philosophy. (g) Motor learning. (h) Psycho-social aspects. Written report required. Prerequisite: consent of adviser and department chairperson.

494-2 (1, 1) Practicum in Physical Education. Supervised practical experience at the appropriate level in selected physical education activities in conjunction with class work. Work may be in the complete administration of a tournament, field testing, individual or group work with special populations, administration of athletics or planning physical education facilities. Prerequisite: consent of adviser.

500-3 Techniques of Research.

501-3 Curriculum in Physical Education.

503-2 Seminar in Physical Education.

505-2 to 6 (2 per topic) Topical Seminar in Physical Education.

506-2 Topical Seminar in the Assessment of Motor Performance.

508-2 Administration of Athletics.

509-3 Administrative Theory and Practice in Physical Education.

510-2 Motor Development.

511-3 Analysis of Human Physical Movement.

512-3 Biomechanics of Human Motion.

513-3 Perceptual Motor Learning of Physical Skills.

515-3 Body Composition and Human Physical Performance.

517-2 Athletic and Physical Education Facilities Design, Construction, and Maintenance.

519-3 Physical Education for the Educationally Handicapped Child.

520-3 Metabolic Analysis of Human Activity.

530-2 Seminar in Research in Motor Performance.

590-1 to 4 Readings in Physical Education.

592-3 Research Projects in Physical Education.

599-3 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Physical Therapist Assistant (Program, Major, Courses)

The physical therapist assistant program, which has been accredited by the American Physical Therapy Association, is designed to prepare the student to work under the direction of a licensed physical therapist to treat disabilities resulting from birth defects, disease, or injury. Following the prescriptions of a physician, the therapist helps the patient to develop strength, mobility, and coordination, and provides relief from pain.

Students will learn massage, exercise, ultra sound, hydrotherapy and other therapeutic techniques in actual practice in the University's Clinical Center. They will work with professional therapists in learning such complex procedures as administering manual muscle tests, electrical muscle and nerve tests, and other evaluative measures.

Before graduation the student will serve a twelve-week internship in two separate hospitals away from the university campus.

The program is served by an advisory committee which provides supportive

expertise. Current members are: David Collins, chief physical therapist, St. Mary's Hospital, Decatur; Virginia Daniel, chairman, department of physical therapy, School of Related Health Sciences, Chicago Medical College; Dr. Harold Kaplan, department of physiology, Southern Illinois University at Carbondale; Laird Wisely, director, physical medicine, Good Samaritan Hospital, Mt. Vernon, Illinois; Barbara Freeman, physical therapist assistant, Springfield; and Linda Juhler, student, Carbondale.

The student should expect to spend approximately \$100 for uniforms and insurance.

Increasing numbers of elderly and chronically ill persons and the rapid expansion of health care programs in both urban and rural areas have created an urgent demand for trained physical therapists. Employment opportunities are available in hospitals, rehabilitation centers, and extended care facilities.

Physical therapy provides a unique service and requires a close interpersonal relationship with the patient. The candidate must possess the following qualities to work with people. 1) good mental and physical health, 2) stamina, 3) good coordination and manual dexterity, and 4) spirit of cooperation.

The prospective student should plan to make early application for admission to this program because enrollment is limited by size of faculty and physical facilities.

This associate degree program can be completed in two academic years, plus one summer session, at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Physical Therapist Assistant

GSA 101, 106, 208, 209	10
GSB 202.....	3
GSD 101, 152.....	5
Health Education 334.....	3
Physiology 300	3
Physical Education 302, 320, and 325 or 326	7-8
Psychology 301, or 303, or 304, or 305	3
Zoology 118	4
Physical Therapist Assistant 100, 113, 202, 203, 204, 205, 207, 208, 209, 213, 214, 321, 322	33
Electives.....	3

Total 74-75

Courses

100-2 Physical Therapy Orientation. Students will be able to describe the historical background, professional ethics, and legal aspects of physical therapy practice. They will be able to understand and utilize specialized medical terminology. They will be able to prepare treatment areas and patients for treatment. They will be able to understand the relationship of physical therapy to total health care. Lecture one hour. Laboratory two hours. Mandatory Pass/Fail.

113-1.5 Therapeutic Modalities I. The student will be able to demonstrate procedures used in the safe application of local heat and cold such as hot and cold packs, infra-red, and paraffin bath, and will also be able to demonstrate safe hydrotherapy procedures such as whirlpool and contrast baths. Lecture one hour. Laboratory two hours. Eight weeks.

202-2 Physical Rehabilitative Techniques. The student will be able to demonstrate rehabilitative procedures such as bed positioning, range of motion exercises, transfer activities and gait training, and will understand the concepts of total rehabilitation. Lecture one hour. Laboratory two hours.

203-1 Pathology. The student will be able to understand the fundamental basis of disease. Emphasis will be placed on those conditions treated through physical therapy procedures. The student will be able to describe the process of inflammation and repair bone and soft tissue injuries. Lecture one hour. Prerequisite: GSA 209.

204-2 Physical Therapist Assistant, Practicum I. Students will be able to carry out routine

physical therapy assisting procedures with selected patients. They will be able to demonstrate previously learned skills in massage, hydrotherapy, range of motion exercises, activities of daily living, and the safe application of heat and cold. They will also be able to assist in maintaining records and equipment. Lecture one hour. Laboratory three hours. Prerequisite: 113, 202, 207.

205-2 Physical Therapy Science. The student will be able to describe selected medical and surgical conditions from the standpoint of etiology, clinical signs and symptoms, and physical therapy treatment. Lecture two hours. Prerequisite: 100, GSA 209, Physiology 300.

207-1.5 Massage. The student will be able to demonstrate massage techniques for specific conditions through role playing and supervised application of massage to selected patients, and will understand the scientific principles of massage and be aware of indications and contraindications for massage. Lecture one hour. Laboratory three hours. Eight weeks. Prerequisite: concurrent enrollment in 100 and consent of instructor.

208-3 Therapeutic Exercise I. Design to teach basic exercises for individual muscles or muscles groups, including breathing and postural exercises. Successful students will learn to select exercises for specific results; i.e., increasing strength, coordination, endurance, and range of motion. They will also learn normal motor development reflexes. Lecture two hours. Laboratory three hours. Prerequisite: Physiology 300.

209-3 Therapeutic Exercise II. Successful students will be able to administer therapeutic exercise techniques for specific clinical conditions through demonstrations and supervised application of exercise for selected patients. They will understand the scientific principles of therapeutic exercise and acquire the skills to effectively and safely utilize exercise equipment. Lecture two hours. Laboratory two hours. Prerequisite: 208, Physiology 300.

213-2 Therapeutic Modalities II. The student will be able to demonstrate procedures used in the safe application of local heat and cold such as diathermy, ultra violet, and ice massage and understand their physiologic effects. The student will be able to describe the indication and contraindications for the use of heat and cold. Lecture one hour. Laboratory two hours. Prerequisite: GSA 101.

214-3 Physical Therapist Assistant, Practicum II. Successful students will be able to carry out more complex physical therapy assisting procedures with selected patients. They will be able to demonstrate previously learned skills in therapeutic exercise, electrical muscle stimulation, and the safe application of such modalities as ultra sound, diathermy, and ultra violet. They will be able to assist in maintaining records and develop cooperative spirit with other members of the department. Lecture one hour. Laboratory five hours. Prerequisite: 204, 208, 213.

321-8 (4, 4) Clinical Internship. The successful student will be able to apply previously learned theories and techniques of patient care through closely supervised practicum experience in two separate physical therapy facilities. (a) First six week internship. (b) Second six week internship. Must be taken in a,b sequence. Prerequisite: completion of all other requirements with a minimum grade average of 2.0.

332-2 Clinical Seminar. Students will be able to discuss with the coordinator of the program patient care and problems encountered during internship. They will have the opportunity to evaluate their educational experience at Southern Illinois University at Carbondale and their clinical internship experience. Prerequisite: concurrent enrollment in 321. Mandatory Pass/Fail.

Physics and Astronomy (Department, Major [Physics], Courses)

The undergraduate major in physics leading to the Bachelor of Science degree provides for a mastery of basic principles and methods of classical and modern physics and for flexibility in application through a breadth of coverage. Students considering a major in physics are urged to consult with the undergraduate adviser of the physics department. An applied physics/experimental physics optional curriculum is provided by selecting from the courses marked with an asterisk in the list of courses required for a major in physics.

Bachelor of Science Degree, College of Science

General Studies Requirements	45 ¹
Supplementary College of Science Requirements	11
Foreign Languages (French, German, or Russian recommended)	(4) + 4
Biological Science (Not General Studies)	6 ³
Mathematics 111	(4) + 1

<i>Requirements for Major in Physics</i>	72-73
Chemistry 115 ² and 222a, or 222a,b, or 224, 225	7-8
Mathematics 150, 250, 251, 305, and 306 or 406 or 407	17
Physics	48
Physics 205a, b, c and 255a, b, c	12
Physics 301, 310, 320, 345, 410, 420, 430	20
16 hours from 324*, 328*, 351*, 424*, 425, 428*	
431, 432, 445, 450*, 460a*, 460b*, 470, 470*	
*Applied/experimental option, concentrating on	
laboratory courses	16
<i>Total</i>	128-129

¹The 45 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.

²For students who do not pass a proficiency examination in chemistry.

³If courses are selected which are approved General Studies substitutes the hours earned will reduce the 45 hour requirement in General Studies.

Bachelor of Science Degree, College of Education

<i>General Studies Requirements</i>	46 ¹
Must include GSB 202 and 212 or 300 or 301; GSD 101 and 117	
or 119; Mathematics 111 as a substitute for GSD 107	
<i>Requirements for Major in Physics</i>	58-60
Chemistry 112 ² and 222a; or 222a, b; or 224, 225	7-8
Mathematics 150; 250; 251; 305; and 306 or 406 or 407	17-18 ³
Physics 205a, b, c and 255a, b, c	12
22 hours of physics courses numbered 300 or above including	
310, 320, 324, 430, and either 425 or 431 and any	
three of the following courses which include laboratory:	
328, 345 and 351, 424, 432, 450, 460a, and 470	22
<i>Professional Education Requirements</i>	28
See Teacher Education Program, page 63. Curriculum,	
Instruction and Media 468 is required.	
<i>Total</i>	132-134

¹The General studies requirement may be reduced by taking major requirements which are approved substitutes for General Studies courses.

²For students who do not pass a proficiency examination in Chemistry.

³Students wishing to qualify to teach mathematics in the secondary schools should take, in addition, Mathematics 311 or 319 and 319e or 352 and 352e.

Audio Marketing

Students interested in preparing themselves for positions related to audio-marketing within the high-fidelity industry are encouraged to take the following courses, which will provide skills needed for a career in high-fidelity sales:

Science Courses: GSA 101, Physics 325, 355

Music Courses: GSC 100, GSA 361

Business Courses: Accounting 210 or 220; GSB 211 or Economics 214 or 215; Marketing 304, 401

Minor

A minor in physics requires 17 hours and must include Physics 203a, b and 253 a, b, or 205a, b and 255a, b and either 205c and 255c or 302 and 255c; 324 or 328 and 351 (no calculus prerequisite). Students having completed calculus (through Mathematics 251) may select 345 and those taking differential equations may select from 310, 410, and 320, 420, to meet requirements.

Recommended electives:

Chemistry: 226, 340, and 460 or 462

Engineering: 222, 313, 361

Electrical Sciences and Systems Engineering: 421, 426

GSB: 211

Geology: 416, 435, 436

Mathematics: 221, 306, 406, 407, 421, 452, 455, 475, 480, 481, 483

Courses

102-1 Everybody's Einstein. A non-mathematical presentation of Einstein's relativity theories on a popular level.

203-6 (3, 3) College Physics. Designed to meet preprofessional requirements and the needs of all students in the sciences except physics and engineering. (a) Mechanics, heat, and sound. Prerequisite: Mathematics 110b or 111. Elective Pass/Fail. (b) Electricity, magnetism, light, and quantum physics. Three lectures, one quiz session. Prerequisite: 203a. Elective Pass/Fail.

205-9 (3, 3, 3) University Physics. (a) Mechanics of particles, rigid bodies, and fluids. Prerequisite: Mathematics 150 or concurrent enrollment. (b) Heat, kinetic theory, thermodynamics, electricity, and magnetism. Prerequisite: 205a. (c) Wave motion, sound, light, and modern physics. Prerequisite: 205b. Elective Pass/Fail.

206T-1 College Physics. Same as the first half of 206b, with topical order of heat, sound, and light.

207T-.3 College Physics Laboratory. Same as the first half of 207b, with topical order of heat, sound, and light.

211T-1 University Physics. Same as first half of 211b, with topical order of heat, sound, and light.

212T-.3 University Physics Laboratory. Same as first half of 212b, with topical order of heat, sound, and light.

253-2 (1, 1) College Physics Laboratory. One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 203a,b respectively. Elective Pass/Fail.

255-3 (1, 1, 1) University Physics Laboratory. One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 205a,b,c respectively. Elective Pass/Fail.

301-2 Theoretical Methods in Physics. Introduction to theoretical methods of general usefulness in intermediate and advanced undergraduate physics, with particular emphasis on applications of these methods to selected topics. Required of all physics majors prior to taking 310 or 320. Prerequisite: 203a or 204a or 205a, Mathematics 250 or consent of instructor. Elective Pass/Fail.

302-3 Astronomy — Honors. Current knowledge of the universe and the gathering of that knowledge. Includes properties of the solar system and theories of its origin, the structure and evolution of stars. Supplemented by occasional hours of evening observation. Prerequisite: one of 203a, 204a, 205a, plus Mathematics 111, or consent of instructor. Elective Pass/Fail.

310-3 Mechanics I. Motions of systems of particles and rigid bodies: gravitation, moving coordinate systems. Prerequisite: 301 or Mathematics 305 or concurrent enrollment. Elective Pass/Fail.

320-3 Electricity and Magnetism I. The theory of electric and magnetic fields; electrostatic fields in vacuum and in material media, special methods for the solution of electrostatic problems, energy, and force relations in electrostatic fields; stationary electric fields in conducting media, electric currents, magnetic fields, magnetic properties of matter. Prerequisite: 301 or Mathematics 305 or concurrent enrollment. Elective Pass/Fail.

324-3 Analog Electronics for the Scientist. Coordinated two-hour lecture and two-hour laboratory study in analog electronics. Emphasis is on overall modern electronics and its applications in the experimental research laboratory setting. Topics include DC and AC circuit theory, transducers and measurement techniques, semiconductor active devices, operational amplifiers and feedback, signal recovery and processing techniques, and noise reduction. Prerequisite: 203b or 205b and Mathematics 111. Elective Pass/Fail.

325-3 Advanced High-Fidelity. A study of the more advanced scientific concepts in high fidelity including Quadraphonic sound, FM and AM modulation, Noise Reduction Systems, Equalizers, as well as discussions on the important technical parameters of tuner, tape decks, speakers, microphones, amplifiers, cartridges, turntables, and headphones. Prerequisite: GSA 101.

328-2 Light. Light propagation, reflection, refraction, interference, diffraction, polarization, and optical instruments. Prerequisite: 203 or 204 or 205. Elective Pass/Fail.

345-3 Thermodynamics and Statistical Physics. Thermal behavior of macroscopic matter, the laws of thermodynamics; basis for thermodynamics in statistical mechanics; basic methods and applications of classical and quantum statistical mechanics. Elementary kinetic theory of matter. Prerequisite: 301, Mathematics 251. Elective Pass/Fail.

351-1 Optics Laboratory. Advanced experiments in geometrical and physical optics. One

three-hour laboratory per week. Prerequisite: 328 or concurrent enrollment. Elective Pass/Fail.

355-1 Advanced High-Fidelity Laboratory. The lab accompanies Physics 325 and allows students to perform all of the electronic measurements necessary to characterize high fidelity components. Measurements will include such specifications as distortion, frequency response, stereo separation, power levels, FM sensitivity, selectivity, etc. Prerequisite: concurrent or previous enrollment in 325.

401T-1 Mechanics. Same as first half of Physics 401.

410-3 Mechanics II. Lagrange's equations, mechanics of continuous media, inertia and stress tensors, rotation of rigid bodies, small vibrations, and advanced principles. Prerequisite: 310 or consent of instructor. Elective Pass/Fail.

415T-2 Modern Physics. Same as 415B and second half of 430, offered during the second half of the fall semester (415A-3 quarter hours plus 415B-two semester hours equals 430-four semester hours.)

420-3 Electricity and Magnetism II. Induced electromotive force, quasisteady currents and fields, Maxwell's equations, electromagnetic waves and radiation, with applications. Prerequisite: 320 or consent of instructor. Elective Pass/Fail.

424-3 Digital Electronics for the Scientist. Coordinated two-hour lecture and two-hour laboratory study of digital electronics, microprocessors and minicomputers with emphasis on their application to the experimental research laboratory setting. Topics include Boolean algebra, basic digital techniques, large scale integration devices, analog to/from digital conversion, microprocessors and minicomputers, and data acquisition. Prerequisite: 324 or consent of instructor. Elective Pass/Fail.

425-3 Solid State Physics I. Structure of a crystalline solid; lattice vibrations and thermal properties; electrons in metals; band theory; electrons and holes in semiconductors; optoelectronic phenomena in solids; dielectric and magnetic properties; superconductivity. Prerequisite: 310, 320, 345, and 430 or consent of instructor. Elective Pass/Fail.

428-3 Modern Optics. Advanced course in modern optics covering such topics as interference and interferometers, diffraction, coherence, holography, optics of solids, laser and non-linear optics; recent developments in optical instrumentation for research. Prerequisite: 328 and 420. Elective Pass/Fail.

430-3 Quantum Mechanics I. An introduction to quantum mechanics including its experimental basis and application in atomic physics. Prerequisite: 310 and 320. Elective Pass/Fail.

431-3 Atomic and Molecular Physics I. Atomic spectra and structure; molecular spectra and structure; application to lasers. Prerequisite: 205c, 430. Elective Pass/Fail.

432-3 Nuclear Physics I. Basic nuclear properties and structure; radioactivity, nuclear excitation, reactions, nuclear forces; fission and nuclear reactors; controlled nuclear fusion. Prerequisite: 430. Elective Pass/Fail.

445-3 Statistical Mechanics I. An introductory course in the principles and applications of classical and quantum statistical mechanics. Elementary kinetic theory of matter. Prerequisite: 340 and 430 or concurrent enrollment. Elective Pass/Fail.

450-1 Modern Physics Laboratory. Introduces students to experimental research and encourages them to develop and carry out experiments. Prerequisite: 205c, either of 350 or 351, or consent of instructor. Elective Pass/Fail.

460-8 (4, 4) Physical and Applied Acoustics. Coordinated lecture and laboratory study in acoustical phenomena. Topics include vibration analysis, wave mechanics, two and three dimensional propagation and applications in physics, materials science, engineering, architecture, music, and environmental science. Emphasis on laboratory and field techniques with modern computer analysis. Prerequisite: 301 or Mathematics 305 or concurrent enrollment. Elective Pass/Fail.

470-1 to 3 Special Projects. Each student chooses or is assigned a definite investigative project or topic. Prerequisite: 310, 320. Elective Pass/Fail.

480-3 Topics in Classical Physics. Assists experienced teachers to improve their understanding of classical physics and the strategy of presenting it. Emphasis on demonstration of phenomena as basic strategy in the introduction to new material. Attention given to the design of demonstration apparatus. Related laboratory experience is an integral part of the course. Prerequisite: consent of department. Elective Pass/Fail.

481-3 Topics in Modern Physics. Assists experienced teachers to extend their understanding of modern physics. Lectures and demonstrations aim at improvement of the means of presenting the ideas of modern physics. Related laboratory experience is an integral part of this course. Prerequisite: consent of department. Elective Pass/Fail.

482-2 (1, 1) In-Service Institute for Teachers of Physics. A series of lectures, demonstrations, discussions, and films to assist teachers of high school physics in meeting their classroom problems and responsibilities. Prerequisite: consent of department. Elective Pass/Fail.

500-6 (3, 3) Mathematical Methods in Physics.

510-4 Classical Mechanics.

511-3 Mechanics of Deformable Bodies and Fluids.

520-7 (4, 3) Electromagnetic Theory.

530-6 (3, 3) Quantum Mechanics II.

- 531-6 (3, 3) Advanced Quantum Mechanics.
- 535-6 (3, 3) Atomic and Molecular Physics II.
- 545-6 (3, 3) Statistical Mechanics II.
- 560-6 (3, 3) Nuclear Physics II.
- 565-6 (3, 3) Solid State Physics II.
- 570-1 to 4 Special Projects in Physics.
- 571-6 (3, 3) X-Ray Diffraction and the Solid State.
- 575-2 to 4 Selected Topics in Physics.
- 581-1 to 3 (1, 1, 1) Graduate Seminar.
- 599-1 to 6 Thesis.
- 601-1 to 12 per semester Continuing Research.

Physiology (Department, Major, Courses)

The Department of Physiology offers training in mammalian physiology, cellular and comparative physiology, pharmacology, biophysics, and human anatomy. The undergraduate major in physiology provides general rather than specialized training in physiology. To become a professional physiologist usually requires the completion of an advanced degree in the field. An undergraduate major in physiology would provide an excellent foundation for those planning a career in teaching or research as well as for those planning a career in a medical field such as medicine, dentistry, veterinary science, nursing, or medical technology. Students considering a major in physiology are urged to consult with the undergraduate adviser of the Department of Physiology.

Bachelor of Arts Degree, College of Science

General Studies Requirements.....	45
College of Science Requirements.....	5
Foreign Languages	(4) + 4
Mathematics 110a, b or 111 (or equivalent), or 140.....	(4) + 1
Requirements for Major in Physiology.....	57
Physiology Courses.....	24
Physiology 410a,b	10
Physiology electives.....	14
To be chosen from courses offered in the Department of Physiology, except 258 and 259.	
Physical Sciences.....	27
Chemistry 222a,b 344, 345, 346, 347.....	19
Physics 203a,b and 253a,b	8
Biological Sciences	6
Two from Biology 305, 307, 308, and 309	
Electives	13
Total.....	120

Minor

A minor in physiology requires a minimum of 16 hours of course work, 10 hours of which must be selected from the courses offered in the Department of Physiology, except 258 and 259. The remaining course work may be derived from closely related areas with prior approval of the department.

Junior-Senior Honors Program

Juniors who have shown outstanding ability in biology courses and related subjects in their freshman and sophomore years may apply for acceptance into the honors program. Honors students do independent study in the physiological sciences (Physiology 491) during their junior and senior years.

Courses

210-5 Introductory Human Physiology. Beginning course in human physiology designed for majors in physiology and other biological sciences, and recommended to premedical and other students considering biological sciences and health professions. Three lectures per week, one hour discussion and one two-hour laboratory. Prerequisite: one year of biological science and a reasonable knowledge of chemistry.

211-3 Principles of Laboratory Animal Use in Teaching and Research. A basic to intermediate course for physiology and other life science majors and students in related fields. Principles and practices of laboratory animal medicine applicable to the research investigator are covered, including: legal requirements; procurement methods; detailed discussion of over 12 common research animals; breeding techniques; surgical instruments, suture patterns and surgical knots, suture materials, anesthetics, basic surgical techniques, euthanasia, necropsy, gnotobiology, and zoonosis. Two one-hour lectures and one two-hour laboratory per week.

258-2 to 8 Work Experience Credit. Under special circumstances, practical experience in laboratories or other work directly related to physiology can be used as a basis for granting credit in physiology. Credit for past work experience is sought by petition to the chairperson of the department and requires approval of the dean of the College of Science. Credit for on-going work experiences requires approval by the chairperson of the department prior to enrollment.

259-2 to 8 Occupational Education Credit. Under special circumstances, advanced training in a paramedical or other field directly related to physiology can be used as a basis for granting credit in physiology. Such credit is sought by petition to the chairperson of the department and requires approval of the dean of the College of Science.

300-3 Human Anatomy. Lectures, demonstrations, and observations of the prosected body. Course primarily for students of physical education, with emphasis on musculoskeletal and nervous systems. Three lecture hours per week. Not open to students who have taken 301.

301-4 Survey of Human Anatomy. Lectures, demonstrations, and observations of the prosected body, plus experiences in the anatomy laboratory. Course is designed for students in nursing; mortuary science, biological science, and related disciplines. Three lecture hours and one two-hour laboratory per week. Not open to students who have taken 300.

401-10 (5, 5) Advanced Human Anatomy. Dissection of the human body. Primarily for students with a major in physiology or other biological sciences. Two hours lecture, six hours laboratory per week. Prerequisite: due to limited facilities, permission of the instructor is required.

402-5 (3, 2) Concepts of Anatomy. A detailed survey of human anatomy for preprofessional students with an interest in the biomedical disciplines, including radiographic, cross-sectional, and histological correlates. Three lectures per week fall semester, two lectures per week spring semester. Should be taken in a, b sequence. Not open to students who have had 401. Prerequisite: senior standing or consent of instructor.

410-10 (5, 5) Mammalian Physiology. Physical and chemical organization and function in mammals, with emphasis on the human. Physiology of blood and circulation, respiration, digestion, metabolism, excretion, endocrines, sensory organs, nervous system, muscle. Primary course for all students majoring in physiology or related sciences. Three lectures and two two-hour laboratory sessions per week. May be taken in any sequence. Prerequisite: college level chemistry and physics and at least junior standing.

411-4 (2, 2) Experimental Animal Surgery. (a) Covers animal care and preparation, anesthesia, etc.; one lecture and one two-hour laboratory per week. (b) Provides training and practice in surgical procedures. Two two-hour laboratories per week. Must be taken in a,b sequence.

420-6 (3, 3) Principles of Pharmacology. Action of drugs and other chemical substances on the living organism; pharmacodynamics, chemotherapy, toxicology, and therapeutics. Pharmacologic action of analgesics, emetics and antimitotics; pharmacology of the nervous system; pharmacology of the muscles; antihistaminics; drugs that affect the eye; drugs that combat infectious diseases. Two lectures and one two-hour laboratory per week. May be taken in any sequence. Prerequisite: organic chemistry and basic courses in biology, or consent of instructor.

430-4 (2, 2) Cellular Physiology. The nature and mechanisms of function of the living cell. Chemical and physical analysis of function at the cellular level. Two lectures per week. Prerequisite: organic chemistry.

433-6 (3, 3) Comparative Physiology. Variations of physiological processes in animal phyla and comparison of these with human physiology. (a) Osmotic and ionic regulation; digestion, nutrition, and metabolism; excretion; respiration; defense and resistance. (b) Muscles and movement; circulation; nervous systems and sensory information; coverings and support; endocrine regulation; reproduction. Three lectures per week. Prerequisite: one year of biological science.

440-6 (3, 3) Biophysics. (a) Biomathematics, biomechanics and biotransport. (b) Bioelectrics and bio-optics applied to physiological problems. Three lectures per week. Prerequisite: Mathematics 141 or equivalent; one year of college biological science including Physiology 210 or its equivalent; one year of college physics. May be taken in b,a sequence with consent of instructor.

- 460-2 Electron Microscopy.** Lecture course designed to introduce the student to the theory and principles of electron microscopy. Two lecture hours per week. Prerequisite: senior standing or permission of instructor.
- 461-3 Biomedical Electronics.** Practical experience with modern electronic circuits and devices used for biomedical purposes, with circuit construction and troubleshooting practice. Two lectures and one two-hour laboratory per week. Prerequisite: consent of instructor.
- 491-3 to 8 Independent Research for Honors.** Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Undergraduate honors students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.
- 492-1 to 3 Special Problems in Physiology.** Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Open to undergraduate students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.
- 500-1 to 6 (1 per semester) Advanced Seminar in Physiology.**
- 520-3 Advanced Endocrinology.**
- 530-3 Advanced Cellular Physiology.**
- 531-2 Advanced Cellular Physiology Laboratory.**
- 533-4 Advanced Comparative Physiology.**
- 540-3 Advanced Biophysics.**
- 560-4 (2, 2) Physiological Techniques.**
- 570-3 to 48 Advanced Physiological Topics.**
- 590-1 to 4 Readings or Research in Current Physiological Topics.**
- 599-1 to 6 Thesis Research.**
- 600-1 to 32 Dissertation Research.**
- 601-1 to 12 per semester Continuing Research.**

Plant and Soil Science (Department, Major, Courses)

The department of Plant and Soil Science includes crop production, horticulture, and soils. There are many widely varied opportunities for students with an interest in plants or soils. Students may choose a general option within the department and select most of their upper division credits from a wide choice of electives throughout the School of Agriculture and the University. If interests are more specialized, students may elect the science option and specialize in one particular area, or may elect a specialization which will combine a broad background in plants and soils with selected business courses and business related electives. A specialization in environmental studies would familiarize the student with environmental problems relating to plants and soils.

Students selecting the landscape horticulture specialization can prepare for interesting careers in landscaping or gardening in parks, playgrounds, residential or industrial areas, road and street parkway improvement and maintenance, and in other public and private work to make the environment more pleasing and useful.

Opportunities for individual program development within the various options may be realized through work experience, internships, special studies, and seminars; however, no more than 30 hours of such unstructured coursework may be counted toward the degree. Students in all specializations are urged to make use of them to meet the goals and needs of their respective programs.

Students in all specializations must complete the plant and soil science core courses. These courses are 200, 220, 240, and one hour of 381.

There may be extra expenses for field trips, manuals, or supplies in some courses.

Bachelor of Science Degree, School of Agriculture

	SPECIALIZATIONS		
	General	Science	Business
<i>General Studies Requirements.</i>	48	49	48
Physics 203a or physics substitute ¹	—	3	—
Chemistry 140a substituted for GSA			
106-3.	4	—	4

Chemistry 222a.....	—	4	—
Botany 200 and 201 substituted for GSA 115-3.....	4	4	4
Agribusiness Economics 204 substituted for GSB 211.....	3	3	3
GSB 202.....	—	—	3
GSD 101.....	3	3	3
GSD 107.....	4	—	4
GSD 117 or 118 ²	2	2	2
GSD 153.....	3	3	3
Mathematics 110 or 111.....	—	5	—
<i>Requirements for Major in Plant and Soil Science.....</i>	53	64	64
Courses in two other departments in agriculture.....	6	6	6
Botany 320.....	4	4	4
Chemistry 140b.....	4	—	4
Chemistry 222b, 340, and 341.....	—	10	—
Physics 203b.....	—	3	—
Plant and Soil Science 200, 220, 240, 381-1.....	11	11	11
Other Plant and Soil Science courses ³ ..	17	17	17
Other Agriculture electives.....	11	6	6
Mathematics, physical sciences, or biological sciences.....	—	7	—
Accounting 210, Administrative Sciences 301 or 304, Marketing 304, or Agribusiness Economics 360.....	—	—	9
Business electives and supporting courses.....	—	—	7
<i>Electives.....</i>	19	7	8
<i>Total.....</i>	120	120	120

¹Physics 205a may be substituted.²GSD 118 is highly preferred.³Plant and soil science electives must include 15 hours of structured coursework at the 300 or 400-level, with no less than 9 hours at the 400-level.

PLANT AND SOIL SCIENCE MAJOR — LANDSCAPE HORTICULTURE SPECIALIZATION

<i>General Studies Requirements.....</i>	48
Chemistry 140a substituted for GSA 106-3.....	4
Botany 200 and 201 substituted for GSA 115-3.....	4
Agribusiness Economics 204 substituted for GSB 211.....	3
GSD 101.....	3
GSD 107.....	4
GSD 117 or 118 ¹	2
GSD 153.....	3
<i>Requirements for Major in Plant and Soil Science with a Specialization in Landscape Horticulture.....</i>	65-67
Agricultural Education and Mechanization 371, 374.....	4
Biology 307.....	3
Botany 320 and 356 or 357.....	7-8
Chemistry 140b.....	4
Design 333.....	4
Plant and Soil Science 200, 220, 240, 322, 327, 328a,b, 381-1, 428a,b, 432 or 434.....	30-31

Agriculture electives	10
Zoology 316	3
Electives	5-7
Design 332 and 432 are highly recommended.	
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Total	120

¹GSD 118 highly preferred.

PLANT AND SOIL SCIENCE MAJOR — ENVIRONMENTAL STUDIES SPECIALIZATION

<i>General Studies Requirement</i>	49
Chemistry 224 or chemistry substitute ¹	5
Botany 200 and 201 substituted for GSA 115-3	4
GSA 330	3
Agribusiness Economics 204 substituted for GSB 211	3
GSB 212, 220	7
GSC 221	3
GSD 101	3
GSD 118	2
GSD 153	3
GSD 107	4
<i>Requirements for Major in Plant and Soil Science with a Specialization in Environmental Studies</i>	56
Agriculture 333	2
Animal Industries 455	2
Agribusiness Economics 401	3
Plant and Soil Science 200, 220, 240, 381-1, 419, 420, 441, 447, 468	27
Agriculture electives, Plant and Soil Science 328a and 346 highly recommended	9
Thermal and Environmental Engineering 314	4
Political Science 325	3
Chemistry 225 ¹	2
Botany 320	4
Electives	15
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Total	120

¹Chemistry, 222a, b may be substituted.

Minor

A minor in plant and soil science is also available to those interested in field crop production, horticulture, or soils. A total of 16 hours of credit is required with at least 12 hours taken at Southern Illinois University at Carbondale. One course may be selected from 200, 220, or 240; and at least eight hours from 300 or 400 level structured courses. These courses may not be taken on an elective Pass/Fail basis. The chairperson should be consulted for assistance in selecting this field as a minor.

Courses

- 100-2 Plants for Society.** How plants have affected the development and culture of society. Interrelationship between plants and people. Importance of plants for beauty, food, fiber, medicine, and drugs. Not applicable to a major or minor in plant and soil science, but may be used as agriculture elective. Elective Pass/Fail.
- 140-2 Soils for Society.** The importance of soil in everyday life. Soil as a medium for plants grown for food, fiber and leisure. The importance of soil in reducing harmful chemicals and

wastes and improving our environment. Not applicable to a major or minor in plant and soil science, but may be used as agriculture elective. Elective Pass/Fail.

200-3 Principles of Field Crop Production. Production of important field crops of the world with greatest emphasis on U.S. and midwestern field crops; crop production changes and adjustments, crop distribution over U.S., and crop groups and classifications, special agronomic problems, crop enemies, crop ecology, fertilizer and liming practices, tillage, crop improvement through breeding. Field trip (no cost).

220-3 General Horticulture. General principles of plant propagation, vegetable growing, fruit growing, landscape gardening, and floriculture. Seniors cannot enroll without consent of instructor. Prerequisite: Botany 200 or equivalent.

225-2 Genetics for the Amateur Gardener. An introduction to the essential principles of genetics and plant hybridization utilizing common garden and house plants.

228-2 Floral Arrangements. Theory and practice in the art of flower and plant arrangement for the home, show, and special occasions. History, elements, and principles of design and use of color.

238-2 Home Gardening. Vegetable gardening techniques for the home gardener. Both inorganic and organic methods are used together with the latest recommended varieties for the small garden.

240-4 Soil Science. (Same as Forestry 240.) Basic and applied chemical, physical, and biological concepts in soils. The origin, classification and distribution of soils and their relationship to humans and plant growth. Prerequisite: Chemistry 140b or equivalent; geology suggested.

257-1 to 10 Work Experience. Credit for on-campus work experience in the areas of plant and soil science, or credit through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Credit awarded based on 4 hours of work per week during the semester for each hour of credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.

258-1 to 15 Prior Work Experience. Credit for work experience prior to University entrance in the areas of plant and soil science. Credit awarded based on 7.5 hours credit per year of career related full-time employment. Proportionately lesser amounts of credit authorized for shorter employment period. No grade for prior work experience. Prerequisite: consent of chairperson.

300-5 (2, 3) Field Crop Production. Principles of growth and production of field crops and their utilization. (a) Primarily corn and soybeans. (b) Small grains primarily wheat and grain sorghum with laboratory demonstrating principles discussed in both a and b including research projects, and grading and utilization of grain. Laboratory field trips, approximately \$5. Prerequisite: an introductory crops course or consent of instructor. Elective Pass/Fail.

305-4 Plant Genetics. Principles of genetics and evolution of plants, elementary plant breeding, and the interaction between plant breeding and industry. Prerequisite: a course in biology or botany. Elective Pass/Fail.

310-3 Morphology of Crop Plants. Cellular structure, vegetative and reproductive development, and grass morphology of major crop plants. Utilization of crop plant parts. Prerequisite: one course in introductory biology or equivalent. Elective Pass/Fail.

322-3 Turfgrass Management. Principles and methods of establishing and maintaining turfgrass for lawns, recreational areas, and public grounds. Identification of basic plant and soil materials and management of turfgrasses in variable environments. Prerequisite: a biology course.

325-3 Garden Flowers. Culture, identification, and use of flowering bulbs, annuals, biennials, and perennials in the home flower garden. Prerequisite: an introductory course in biology or consent of instructor. Elective Pass/Fail.

327-3 Landscape Plant Materials. Identification, usage and adaptability to the landscape of woody (deciduous and evergreen) and ornamental shrubs, trees and vines. Use of plant keys. Prerequisite: an introductory botany course or consent of instructor.

328-4 (2, 2) Appreciation of Landscape Design. (a) Introduction to theory and principles of landscape design as applied to the modern home. Property selection and climate control. (b) Laboratory. Practical application in modern methods of property planning including the individual components of the completed landscape plan and selection of plants. Prerequisite: 327 and Agricultural Education and Mechanization 376 and 377 or equivalent.

338-3 Flower Shop Management. Requirements for establishing and operating a retail flower shop. Business management, floral design, and marketing. Prerequisite: 228, a course in economics, or consent of instructor.

346-2 Soil and Water Conservation. How soil erosion occurs, evaluation of the various factors affecting it, its effects on humans, food production and pollution; and practical means of control. Prerequisite: a course in soils suggested.

347-1 Laboratory Practices in Soil and Water Conservation. Effects of soil properties and rainfall characteristics on erodibility of soils. Laboratory work in land surveying, relief mapping and a study of structures related to soil and water conservation.

359-1 to 6 Intern Program. Supervised work experience program in either an agricultural agency of the government or agri-business. Prerequisite: junior standing and approval of department. Mandatory Pass/Fail.

380-4 (2, 1, 1) Plant and Soil Evaluations. (a) Grain grading to include crop and weed

identification and seed identification and analysis; (b) Comparative evaluation and judging of horticultural crops to include flowers, fruits, vegetables, woody ornamentals. Field trip costing approximately \$25. (c) Soil evaluation to include identification of genetic horizons, their physical characteristics and classification. Field trips (no cost). These courses are not required for participation in SIU judging team activities. Elective Pass/Fail.

381-1 to 2 (1, 1) Plant and Soil Science Seminar. Discussion of special topics and/or problems in the various areas of plant and soil science. Prerequisite: GSD 153 and junior standing.

390-1 to 4 Special Studies in Plant and Soil Science. Assignments involving research and individual problems. Prerequisite: consent of department chairperson.

391-1 to 4 Honors in Plant and Soil Science. Independent undergraduate research sufficiently important to three hours per week of productive effort for each credit hour. Prerequisite: junior standing, GPA of 3.0 with a 3.25 in the major, and consent of department chairperson.

400-2 Trends in Agronomy. A discussion session format will be employed as a means of acquainting students with recent literature and allowing them to remain current with latest developments in their area of specialty. Prerequisite: senior standing.

405-3 Plant Breeding. Principles of plant breeding emphasized together with their application to the practical breeding of agronomic, horticultural, and forest plants. Field trip costs approximately \$10. Prerequisite: 305 or equivalent. Elective Pass/Fail.

408-3 World Crop Production Problems. Ecological and physiological factors influencing production in various areas of the world. Natural limitations on world crop production. Non-agricultural factors influence world crop output. Prerequisite: 200. Elective Pass/Fail.

409-3 Crop Physiology and Ecology. The effects and significance of physiological and ecological parameters on crop yields. Prerequisite: Botany 320 or consent of instructor.

419-3 Forage Crop Management. Forage crop production and utilization; forage crop characteristics, breeding, and ecology; grasslands as related to animal production, soil conservation, crop rotation, and land use. Field trip costs approximately \$5. Prerequisite: Botany 200 or one course in biology or equivalent.

420-4 Crop Pest Control. Study of field pests of forest; orchard, field, and garden crops; pest control principles and methods; control strategy; and consequences of pest control operations. Prerequisite: introductory biology or crop science course and/or consent of department.

422-3 Turfgrass Science. Basic concepts of physiology, growth, and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special turf areas such as golf courses, athletic fields, and sod farms; and to the turfgrass industry. Field trips cost approximately \$15. Prerequisite: 240 and 322 or equivalent or consent of instructor.

423-3 Greenhouse Management. Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; and greenhouse heating and cooling systems. Field trips costing approximately \$5. Prerequisite: 220 or consent of instructor.

424-3 Floriculture. Production, timing, and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Field trip costing approximately \$25. Prerequisite: 423 or consent of instructor.

428-6 (3, 3) Advanced Landscape Design. Theory and principles of residential landscape design. Practice in drawing residential landscape plans. (a) Emphasis on arrangement of unit areas. (b) Emphasis on details of design and selection of plants. Prerequisite: 328-4 or consent of instructor.

430-4 Plant Propagation. Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds, cuttings, grafts, and other methods of propagation. Field trip costing approximately \$5. Prerequisite: 220.

432-4 Nursery Management. Principles and practices involved in the propagation, production, and marketing of ornamental landscape plant materials. Emphasis on plant production with field trips to various production areas costing approximately \$40. Prerequisite: 220 and 327a, or consent of instructor.

434-3 Woody Plant Maintenance. Care and management of ornamental shrubs and trees commonly used in the landscape. Topics to include trimming, pruning, fertilization, transplanting, and diagnosis of woody plant problems. Prerequisite: 327 or Forestry 201 and 202 or consent of instructor.

436-4 Fruit Production. Deciduous tree and small fruit growing, physiology, management practices, marketing. Prerequisite: 220 or consent of instructor.

437-4 Vegetable Production. Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Field trip costing approximately \$5. Prerequisite: 220 or consent of department.

441-3 Soil Morphology and Classification. Development, characteristics, and identification of soils; study of profiles; and interpretation and utilization of soil survey information in land use planning. Field trip costing approximately \$5. Prerequisite: 240 or consent of instructor.

442-3 Soil Physics. A study of the physical properties of soils with special emphasis on soil and water relationships, soil productivity, and methods of physical analysis. Prerequisite: 240.

443-3 Soil Management. The soil as a substrate for plant growth. Properties of the soil important in supplying the necessary mineral nutrients, water and oxygen and for providing an environment conducive to plant root system elaboration. Soil management techniques that are important in optimizing plant growth. Prerequisite: 240. Elective Pass/Fail.

447-3 Fertilizers and Soil Fertility. Recent trends in fertilizer use and the implications of soil fertility build up to sufficiency and/or toxicity levels; the behavior of fertilizer material in soils and factors important in ultimate plant uptake of the nutrients; the plant-essential elements in soils and ways of assessing their needs and additions; tailoring fertilizer for different uses and management systems; implication of excessive fertilization in our environment. Prerequisite: 240; concurrent enrollment in 448 suggested. Elective Pass/Fail.

448-2 Soil Fertility Evaluation. A laboratory course designed to acquaint one with practical soil testing and plant analysis methods useful in evaluating soil fertility and plant needs. One hour lecture, two hours laboratory. Prerequisite: 240; 447 or concurrent enrollment; or consent of instructor.

454-4 Microbial Processes in Soils. A study of microbial numbers, characteristics and biochemical activities of soil microorganisms with emphasis on transformations of organic matter, minerals, and nitrogen in soil. Prerequisite: 240 or Microbiology 301; or permission of instructor. Elective Pass/Fail.

468-3 Weeds — Their Control. Losses due to weeds, weed identification and distribution, methods of weed dissemination and reproduction, mechanical, biological, and chemical control of weeds. State and Federal legislation pertaining to weed control herbicides. Herbicide commercialization. Field trips costing approximately \$5. Prerequisite: an introductory biology course. Elective Pass/Fail.

518-3 Principles of Herbicide Action.

520-3 Growth and Development of Plants.

524-2 Advanced Plant Genetics.

526-4 Cytogenetics.

547-2 Soil-Plant Nutrient Relationships.

560-5 (3, 2) Field Plot Technique.

581-1 to 4 (1, 1, 1, 1) Seminar.

582-6 (2, 2, 2) Colloquium in Plant and Soil Science.

588-1 to 8 International Graduate Studies.

590-1 to 4 Readings.

592-1 to 3 Special Problems.

593-1 to 4 Individual Research.

599-1 to 6 Thesis.

601-1 to 12 per semester Continuing Research.

Political Science (Department, Major, Courses)

The study of political science is concerned with predicting, explaining, and evaluating the political behavior, beliefs, laws, and organizational arrangements of people in a variety of settings. A major in political science provides rigorous social science training. A variety of courses afford a student an opportunity to study, in depth, individual and group behavior, political, administrative, and judicial processes, comparative national and subnational governmental systems, intergovernmental relations and conflict resolution, and normative and empirical political theory. The student who is interested in the public sector will find discussions of such topics as voting behavior, American foreign policy, and the decisions and opinions of Supreme Court justices to be challenging experiences.

A major in political science provides excellent training for the public service, scientific polling and political analysis, management training programs, and teaching, particularly at the secondary level. A political science major also provides an excellent foundation for professional graduate training in law, journalism, public administration or public affairs, as well as for graduate work in political science which is essential for a career in higher education. For the non-vocationally oriented student, political science is an excellent major for anyone with a keen interest in politics and public affairs.

A student planning to major in political science should consult with the academic adviser of the department as early as possible in order to plan an orderly and

coherent program. All members of the department are available for consultation on their academic specialties.

Students majoring in political science must take GSB 212. Political Science 200, 213, GSB 250, GSB 270, and GSB 378 are background courses for many advanced courses in the department. In fulfilling General Studies requirements or in choosing electives, political science majors should select courses from economics, psychology, sociology, anthropology, geography, and history. Mathematical or statistical training is highly recommended because of the emphasis on empirical research and analysis in political science. Such training will also enhance vocational opportunities. Depending on special interest, a student should also consider courses in foreign languages or computer programming. Such courses are particularly important for the student who is planning to enter graduate school.

Qualified students are encouraged to inquire about individualized courses of study such as Political Science 390, 395, and 494. The interested student should contact the academic adviser of the department or a member of the faculty.

At least fifteen of the required thirty-four credit hours for political science must be earned at Southern Illinois University at Carbondale.

Courses taken as Pass/Fail will not be counted as fulfilling the requirements for a major in Political Science.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72.)	(4) + 8-14
<i>Requirements for Major in Political Science</i>	34
GSB 212, or equivalent	
Additionally, political science electives, including 200 and 300 GSB courses offered by the department, to total 34 hours. Courses shall be distributed so that a minimum of one course is taken in 5 of the following 6 areas: scope, methods, and political theory; American politics; public law; public administration; comparative politics; and international relations. GSB 212 does not satisfy an area requirement. A minimum of three of the electives must be taken at the 400 level.	
<i>Electives</i>	27-33
<i>Total</i>	120

Bachelor of Science Degree, College of Education

A major in political science for education requires 34 credit hours of work in the department. This work must be distributed among the subfields of the discipline in the same manner as the 34-hour requirement described above for the Bachelor of Arts degree.

Every student enrolled in this program should seek regular advisement in the Department of Political Science to insure that department requirements will be fulfilled.

Students obtaining a Bachelor of Science degree in the College of Education must satisfy all requirements of that college. See Teacher Education Program, page 63. Professional education and other certification requirements may be found in the section of this catalog titled Curriculum, Instruction, and Media. All students enrolled in a teacher education program are required to take a special methods course. Since there is no methods course in political science, Curriculum, Instruction, and Media 469 is a required course for all students in this program. The course should be completed before student teaching. A student enrolled in the teacher education program is required to have a 2.50 grade point average in political science in order to be recommended for student teaching by the department.

Minor

A minor in political science consists of 16 hours to be approved by the department adviser.¹

¹Students completing a minor in political science for purposes of obtaining teacher certification in the State of Illinois must complete a minimum of 18 semester hours in the minor area.

Courses

The numbers preceding the following course titles have been designed to group courses by subject matter as well as level. A summary explaining the numbering system follows:

COURSE	LAST TWO DIGITS OF COURSE NUMBER
Scope, Methods, and Political Theory	00-09
American Politics	10-29
Public Law	30-39
Public Administration	40-49
Comparative Politics	50-69
International Relations	70-89
Miscellaneous	90-99

Courses

200-3 Introduction to the Discipline of Political Science: Scope. Examination of the philosophy, methodology, theories, approaches and relevant generalizations of the study of politics and of the scope and subfields of political science. Not open to seniors without instructor's consent. Elective Pass/Fail.

213-3 State and Local Government. Structure, functions, and decision-making processes of subnational governments in the United States. Prerequisite: GSB 212. Elective Pass/Fail.

214-3 Illinois Government. The politics, structure, and function of state and local governments in Illinois with stress upon the historical development of the political culture, current issues and events in the light of the historical background, and the interrelationship of politics, structure, and policy. Prerequisite: 213 or sophomore standing. Elective Pass/Fail.

220-3 Problems in American Public Policy. Study and analysis of selected public policies and programs. Examination of major issues will have a problem orientation and their selection will vary. The following topics will usually be included: political economy, defense, welfare and health, urban affairs, and the relationship between the media, energy, education and politics. Prerequisite: GSB 212 recommended.

300-3 Introduction to the Discipline of Political Science: Methods. An examination of the research methods and data analysis techniques used by political scientists in their analysis of political questions and problems. Prerequisite: None, 200 recommended. Elective Pass/Fail.

303-3 Introduction to Political Theory. Normative and testable theories in political science are introduced and interrelated. Guidelines for applying those theories to empirical and ethical problems are discussed. Prerequisite: 200 recommended. Elective Pass/Fail.

316-3 Political Socialization. (Same as Sociology 316.) An inquiry into interdisciplinary empirical theory and research on political learning relevant to (1) who (2) learns what (3) from whom (4) under what circumstances (5) with what effects. Prerequisite: 200 or GSB 212 or instructor's consent. Elective Pass/Fail.

317-3 Public Opinion and Electoral Behavior. The nature and function of public opinion as it is related to electoral behavior. Additional sociological and psychological bases of voting behavior will be studied. Prerequisite: None; 200 recommended. Elective Pass/Fail.

318-3 Political Campaigns and Elections. (Same as Speech Communication 358.) Analysis of modern political campaigns and the role they play in a democracy. Emphasis will be on recent developments in the planning and execution of campaigns by mass media and communication specialists and the role of the political parties and the public opinion polls in this process. Prerequisite: GSB 212. Elective Pass/Fail.

319-3 Political Parties. Nature, structure, and functions of political parties, with particular attention to the roles and activities of political parties in the United States. Attention also given to voting behavior and elections. Prerequisite: GSB 212. Elective Pass/Fail.

321-3 The Legislative Process. A comparative analysis of legislatures and legislative behavior. Emphasis is on the United States Congress. Prerequisite: GSB 212. Elective Pass/Fail.

322-3 American Chief Executive. The origin and background of the presidency and the governorship, qualifications, nomination and election, succession and removal, the organiza-

tion of the executive branch, and the powers and functions of the president and governor. Prerequisite: GSB 212. Elective Pass/Fail.

324-3 Politics and Public Policy. The public policy-making process in the United States evaluated and a wide range of public policy programs analyzed. Prerequisite: GSB 212. Elective Pass/Fail.

325-3 Politics and Environmental Policy. Prompted by the conservation lobbies, United States and state legislatures moved to preserve the biosphere and to create a healthier human environment. The course will cover the traditional common law remedies to protect the citizens and their property from the hazards of pollution and new broader constitutional and/or statutory right to a clean, healthy, and pleasant environment. Prerequisite: None; GSA/B 220 or GSA/B/C 221 or Political Science 340 recommended. Elective Pass/Fail.

326-3 Politics of Social Welfare. The Social Security Act and other legislation of major significance for the welfare and maintenance of the family, the handicapped, children, and other special groups. Their relationship to the legal structure of federal, state, county, township, and municipal welfare facilities, and institutions with indications of economic and social consequences. Elective Pass/Fail.

328-3 Field Research in Public Policy. Students study public policy of their choice, individually or in teams, using field research techniques such as interviewing, direct observation, and inspection of public records. The policy studied is then evaluated in light of student-developed concepts of the public interest. Prerequisite: GSB 212. Elective Pass/Fail.

330-3 Introduction to the Legal Process. Designed to provide a basic background in the United States legal process for students who want only an overview of the process or who plan to take an extensive number of additional courses in the judicial area. The course will survey the history of common law, legal reasoning, basic terminology, conventional legal research, the legal profession, and provide an introduction to civil and criminal processes. Prerequisite: GSB 212 recommended. Elective Pass/Fail.

332-3 Introduction to Civil Liberties and Civil Rights. Course focuses on civil rights (e.g. voting, housing, employment, education) in terms of congressional statutes, the judicial rulings which led up to them, the administrative development and judicial interpretation of the statutes. Prerequisite: GSB 212 recommended. Elective Pass/Fail.

334-3 Criminal Justice in Society and Court Management. Designed to provide the student with an in-depth look at the organization and management of federal, state, and local criminal courts. Focuses on the criminal process and the rights of defendants as they are processed by the system. Prerequisite: GSB 212 recommended. Elective Pass/Fail.

340-3 Introduction to Public Administration. An introduction to the study of public bureaucracy. Theoretical, political, and practical issues of organization, staffing, financing, and other matters are surveyed. United States administration and organizational behavior are stressed. Prerequisite: GSB 212. Elective Pass/Fail.

353-3 Comparative Communist Systems. General introduction to the political systems of communist states with special emphasis on Eastern Europe. Attention given to the role of ideology, the character and role of the party, and major decision making structures and processes. Elective Pass/Fail.

354-3 Political Violence. Comparison of several forms of political violence: war, revolution, terrorism, assassination, urban guerrilla warfare. The national and individual correlates of violence will be studied. Elective Pass/Fail.

366-3 Introduction to Latin American Government and Politics. A general introduction to Latin American government as the institutionalized political expression of Latin American civilization and culture. Does not require a reading knowledge of Spanish or Portuguese. Elective Pass/Fail.

371-3 International Political Economy. Political dynamics of international trade, finance, investment, multinational corporations, energy, development, world wealth distribution, technology transfers. Politics of economic relations between East and West, rich and poor. Assumes that the political system shapes the economic system, that political concerns often shape economic policy, and that international economic relations are political relations. Prerequisites: none; GSB 270 or economics course recommended.

373-3 International and Transnational Organizations. The growth and role of international organizations, with special attention to the political effects of military, economic and ecological interdependence. The United Nations, regional organizations, and nongovernmental organizations. The effects of these organizations on international peace and justice. Prerequisite: none; GSB 270 recommended. Elective Pass/Fail.

382-3 The New Politics of Europe. International politics of Europe. Comparative analysis of the foreign policies of the major states. Topics studied include nationalism, unification, and security, Western Europe's relations with the developing world, Eastern Europe, the USSR, and the U.S. Elective Pass/Fail.

383-3 International Relations of Communist States. History and analysis of the foreign policies principally of the Soviet Union and China, with some attention to Eastern Europe, North Korea, North Vietnam, and Cuba. Prerequisite: 353 or GSB 250 or consent of instructor. Elective Pass/Fail.

390-1 to 6 Readings in Political Science. In-depth, introductory and advanced readings in

areas not currently covered in other political science courses. Student must choose a faculty member to direct reading and must obtain consent prior to registration. Fifteen hundred pages of reading per credit hour recommended. Name of faculty member must be filed with the undergraduate adviser of the department at registration. Prerequisite: consent of instructor prior to registration.

395-1 to 12 Internship in Public Affairs. Supervised field work in the office of a governmental agency, political party, interest group, legal agency, or other public affairs-oriented organization. A faculty-supervised paper is required in which the student relates the academic and internship experiences. Students must choose a faculty member to direct internship and obtain consent prior to registration. Name of faculty member must be filed with undergraduate adviser of the department at registration. Political Science 395 is open only to students who are confirmed Political Science majors or minors. Students must have taken at least two courses in the department with a minimum grade point average of 2.5 in these courses. No more than six hours may be counted toward a departmental major. A written description identifying the specific organization, the projected tasks, and responsibilities of the intern should be prepared prior to meeting with the faculty sponsor.

403-4 Philosophy of Politics. (See Philosophy 441.) Elective Pass/Fail.

404-3 History of Political Theory. Shall survey different theorists and perspectives which have contributed significantly to the development of the ongoing tradition of political theory up to modern times. Prerequisite: 303 or consent of instructor. Elective Pass/Fail.

405-3 Democratic Theory. An examination of various species and aspects of democratic thought, including the liberal tradition and its impact upon the United States. Prerequisite: GSB 212 or consent of instructor. Elective Pass/Fail.

406-3 Socialist Thought. An examination of socialist thought regarding social structure, economic institutions, and political power. Prerequisite: senior or graduate standing or consent of instructor. Elective Pass/Fail.

408-3 Contemporary Political Theory. Shall explore the theorists and perspectives which have contributed to contemporary views of the political world. Prerequisite: 303 or consent of instructor. Elective Pass/Fail.

413-3 Modern Federalism. The structure and function of federal systems of government with emphasis on recent revisions in American federalism and comparison of the American federal structure with federalism in other nations. Elective Pass/Fail.

414-3 Political Systems of the American States. The state level of government viewed with emphasis upon recent developments and current research. Prerequisite: 213. Elective Pass/Fail.

415-3 Urban Politics. An examination of the environment, institutions, processes, and functions of government in an urban society with particular emphasis on current problems of social control and the provision of services in the cities of the U.S. Prerequisite: 213. Elective Pass/Fail.

416-3 Senior Seminar in Politics. Seminar for advanced undergraduate students to examine in depth a wide variety of topics; to be taught by different instructors. Available for use as the honors seminar. Graduate students not admitted. Prerequisite: 200 recommended. Elective Pass/Fail.

417-3 Political Psychology. An examination of various psychological theories as they relate to the development and change of political attitudes, leadership behavior, and mass political participation. Prerequisite: 200 recommended. Elective Pass/Fail.

418-3 Political Communications. (See Speech Communication 451.) Elective Pass/Fail.

419-4 Political Sociology. (See Sociology 475.)

428-3 Government and Labor. (See Economics 436.) Elective Pass/Fail.

429-3 Ascriptive Politics: Gender, Race, Ethnicity. Comparative analysis of ascriptive factors in participation, organization, leadership recruitment and selection, stratification and mobility, policy formulation and implementation, judicial decision-making, and political change. Elective Pass/Fail.

433-8 (4, 4) Constitutional Law. (a) This, the initial course in a two-course sequence, will be concerned with the basic structure and power relationships in the American constitutional system and, in addition, will cover the 19th and early 20th century bulwarks of constitutional *laissez faire*, the contract clause and "substantive" due process. In brief, the course will cover judicial review, judicial restraint, separation of powers, the federal system, national powers, state powers, constitutional amendments, and restraints on economic powers, the contract clause and "substantive" due process. Prerequisite: GSB 212. Political Science 330 is recommended. Elective Pass/Fail. (b) This is the second course in the constitutional law sequence. The course will be wholly concerned with those provisions of the Constitution which protect individual rights and liberties against governmental encroachment. In brief, the course will cover constitutional provisions and case precedents relating to citizenship, freedom of speech, assembly, and association, freedom of religion, rights of persons accused of crime, protection against racial, ethnic, and other forms of discrimination, legislative apportionment and the electoral process. Prerequisite: GSB 212. Elective Pass/Fail.

435-3 Judicial Process and Behavior. An examination of the process by which judges in both trial and appellate courts at federal and state levels are selected and of the ways in which they

make decisions. Attention to the structure of the courts. Study of the communication and impact of judicial decisions. The course will provide some insight into the methods used to study judicial behavior. Elective Pass/Fail.

436-3 Administrative Law. The procedural law of public agencies, particularly the regulatory commissions but also executive branch agencies exercising regulatory functions. The exercise of discretion and its control through internal mechanisms and judicial review. Prerequisite: an ability to read court cases; 340 also preferred. Elective Pass/Fail.

437-3 Jurisprudence (Theories of Law). Major schools in legal thinking. Positive law and natural law. Idea of justice and concept of natural rights. Elective Pass/Fail.

441-3 Organization Theory. Analysis of various approaches to organizational theory and public administration with emphasis on recent American literature in this field. Prerequisite: 340 or consent of instructor. Elective Pass/Fail.

442-3 Public Personnel Administration. An analysis of some of the central problems encountered by the government executive in recruiting, maintaining, and developing personnel, such as political neutrality, leadership and motivation, career development, security regulations, and the role of personnel in policy planning and execution. Prerequisite: 340. Elective Pass/Fail.

443-3 Public Financial Administration. An examination of state and local government financial administration. Patterns in revenues and expenditures and administrative processes and problems are emphasized. Some of the topics covered are: (1) interstate variations in expenditures, (2) the property tax, (3) grants-in-aid and revenue sharing, and (4) municipal debt. Students conduct individual research and participate in computer based exercises. Prerequisite: none. 213 recommended. Elective Pass/Fail.

444-3 Policy Analysis. An examination of basic concepts in the policy sciences, approaches to policy analysis, applications to selected areas of policy, and instruments of policy development. Elective Pass/Fail.

445-4 Administration of Environmental Quality and Natural Resources. (Same as Geography 426.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Elective Pass/Fail.

447-6 to 9 (3, 1 or 2, 2 to 4) Urban Planning. (See Geography 470a, b, c.) Elective Pass/Fail.

452-3 Politics of Developing Areas. A survey, theoretical and descriptive, of the impact upon politics of the process of development and the role of the governmental system in the direction and control of development. Elective Pass/Fail.

454-3 Comparative Urban Politics. Comparative analysis of urban political systems in the United States and other nations. Attention to the social environment, political structures, political processes, and public policies of selected urban areas. Prerequisite: none. 213 recommended. Elective Pass/Fail.

455-3 Comparative Public Administration. Administrative attitudes, behaviors, and institutions are compared on a topical basis in governments of Britain, Europe, the United States, Japan, and selected socialist, developing, and ancient states. Elective Pass/Fail.

457-3 Great Britain and the Commonwealth. The nature of the Commonwealth Association and the politics of Great Britain and the "Old Commonwealth" countries: Australia, Canada, New Zealand. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

458-3 Governments and Politics of Europe. A comparative study of the political systems of the major countries of Western and Central Europe. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

459-3 Government and Politics of Soviet Russia. Dynamics of Soviet government and economy. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

461-3 Governments and Politics of Southeast Asia. Politics and governments of Burma, Thailand, Malaysia, Vietnam, Cambodia, Laos, Singapore, Indonesia, and the Philippines. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

462-3 Governments and Politics of Vietnam. Development of political groupings since the period of French domination. Role of the religious sects and the private armies. Constitution and the legal and political system of Vietnam. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

463-3 Government and Politics of China. Internal political, economic, and social development of China. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

464-3 Governments and Politics in the Middle East. Internal and international politics of the Islamic states of the Middle East and North Africa and Israel. Prerequisite: none. GSB 250 recommended. Elective Pass/Fail.

465-3 Governments and Politics of Sub-Saharan Africa. (Same as Black American Studies 465.) An examination of the impact of western colonial rule on the societies and politics of Africa, the methods by which these colonial areas became sovereign states in the post-World War II era, the role of domestic political institutions, African political thought and behavior,

and the development of foreign policies regarding relations with other African states, continental and international organizations, and non-African states. Prerequisite: 452 or GSB 250. Elective Pass/Fail.

466-4 Governments and Politics of Latin America. An in-depth analysis of specific problem areas in Latin American political processes as well as comparative study of selected Latin American nation-states. Prerequisite: none. 366 recommended. Elective Pass/Fail.

468-3 The Politics of National Defense. A comparative study of the growth of the relationship of the armed forces with the civilian sector of the body politic, the selection, training, and professionalization of the officer corps, the control of the armed forces by the executive and legislature, the growth of strategic doctrine, insurgency and counter-insurgency warfare, and the analysis of the role of the armed forces as a governing group in a large number of non-western states. Prerequisite: GSB 212 or 250 or Political Science 452. Elective Pass/Fail.

475-6 (3, 3) International Law. (a) Rules and practices governing the nations in their relations in peace and war. Prerequisite: none. GSB 270 recommended. (b) Investigation of special problems in international law. Prerequisite: 475a. Elective Pass/Fail.

477-3 The Making of American Foreign Policy. An advanced course dealing with the formulation and administration of American foreign policy. Prerequisite: none. GSB 378 recommended. Elective Pass/Fail.

480-3 International Politics. Definition and analysis of the concepts of spheres of hegemony, alliances, regionalism, integration, interdependence, and an evaluation of their application to contemporary international politics. The course will stress the need for the continuing evaluation of the vague role of national power and influence within the framework of a changing world environment. Elective Pass/Fail.

485-3 International Relations of the Far East. The political and strategic problems and the interplay of the foreign policies of the major powers in this area. Prerequisite: none. GSB 270 or History 380 recommended. Elective Pass/Fail.

488-3 International Relations of the Western Hemisphere. Emphasis on the international behavior of Latin American nation-states and/or regions especially related to policy trends and historical and contemporary objectives of the U.S. Prerequisite: none. GSB 270 recommended. Elective Pass/Fail.

494-1 to 6 Honors Research. Directed research for senior government honors students. Not for graduate students. Prerequisite: consent of instructor and chairperson. Student must have at least a *B* average in political science.

500-2 Research Methods — Introduction.

501-3 to 9 (3 per topic) Research Methods.

502-3 to 6 Topical Seminar in Research Methods.

503-3 Data Preparation and Management.

504-3 Pro-Seminar in Political Theory.

505-3 to 6 (3, 3) Topical Seminar in Normative Theory.

508-3 to 6 (3, 3) Topical Seminar in Empirical Theory.

510-3 Pro-Seminar in American Politics.

511-3 to 6 (3, 3) Topical Seminar in American Politics.

514-3 Seminar in American State Politics.

515-3 Seminar in Urban Politics.

516-3 to 6 (3, 3) Seminar in Political Behavior.

518-3 Seminar in Political Parties.

521-3 Seminar in the Legislative Process.

538-3 Seminar in the Judicial Process.

540-3 Seminar in Public Management.

541-3 Seminar in Applied Problems of Public Administration.

542-4 Public Budgeting and Fiscal Management.

544-3 Program Evaluation.

547-6 (3, 3) Topical Seminar in Public Administration.

550-3 Pro-Seminar in Public Administration.

560-3 Pro-Seminar in Comparative Politics.

568-3 Seminar in Comparative Analysis.

569-3 to 6 (3, 3) Topical Seminar in Comparative Politics.

570-4 Pro-Seminar in International Relations.

573-3 Seminar in International Organization.

575-3 Seminar in International Law.

577-3 to 6 (3, 3) Topical Seminar in Foreign Policy.

580-3 to 6 (3, 3) Topical Seminar in International Relations.

590-1 to 6 Readings.

591-1 to 6 Individual Research.

593-2 Seminar on Teaching Political Science.

594-1 to 6 Applied Study in Public Affairs.

595-1 to 6 Internship in Public Affairs.

599-1 to 6 Thesis.

600-1 to 36 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Professional Education Experiences

Student Teaching

Student teaching, together with the seminar in professional education, constitutes a full professional commitment on the part of the student and is a full professional semester of experience in the field carrying 15 hours of credit. Additional course work may be taken only on an overload basis with special permission from the coordinator of professional education experiences.

The student teacher must follow the same daily schedule as the cooperating teacher with whom the student is placed. This means that the student teacher remains in the school for the entire day, as well as participating in whatever extra-curricular activities might be the responsibility of the cooperating teacher.

Students majoring in elementary education will be assigned to work with a cooperating teacher in one of the elementary grades, one through six, in an affiliated school. Students majoring in early childhood education will be assigned to work with a cooperating teacher in a kindergarten or primary grade, one through three, in an affiliated school.

The student who majors in a secondary school subject field which has an approved program in the teacher education program will be assigned to work with a cooperating teacher in a secondary school, grades seven through twelve, whose teaching assignment is consistent with the student's teaching major.

Special education majors will be assigned to work with a cooperating teacher in the appropriate special area: mental retardation, behavioral disorders, or learning disabilities. Special education majors will be assigned at both the elementary and secondary levels in order to meet certification requirements. Students majoring in speech pathology and audiology will be assigned to a cooperating teacher who is a speech clinician in an affiliated school.

Students wishing to enroll in the professional semester during the fall or spring semester of the academic year must file an application with the Office of Teacher Education, Wham Building, Room 135, at least one semester in advance of the semester during which they wish an assignment. The professional semester program during the summer session is restricted to those individuals who hold either a provisional teaching certificate or a teaching certificate in a field other than the one for which they are seeking certification. Participation in this program is also dependent upon the availability of suitable placements in the summer school programs of participating public schools.

Applications for both regular academic year and special summer participation are available in the Office of Teacher Education, Wham Building, room 135.

The student must register for the professional semester following normal registration procedures. Registration will include the following courses: Education 400, 4 hours, Education 401, 8 hours, and Education 350, 3 hours. Students will register for the sections of these courses designated for their majors. Registration during the summer session is by restricted class card for Education 300A, 5-8 hours.

PLACEMENT OF STUDENT TEACHERS

Student teaching under the supervision of Southern Illinois University at Carbondale faculty is conducted in professional education centers in affiliated schools in the southern Illinois area as well as in specific locations throughout the state. A current listing of specific schools to which student teachers may be assigned is available in the Office of Teacher Education.

In so far as numerical limits will permit, students will be assigned to the location of their choice. However, if the limits have been met, students are advised that they may be assigned to any of the centers which can suitably accommodate them.

Students are advised to make no binding housing commitments during the professional semester until they have received verification of their student teaching assignments. Such housing commitments will not be considered when students are assigned.

PROFESSIONAL SEMESTER — (STUDENT TEACHING) PREREQUISITES

1. Students must have achieved formal acceptance into the teacher education program and must present their records of acceptance when applying for the professional semester.
2. The student is responsible for having all transcripts of credit earned at colleges or universities other than Southern Illinois University at Carbondale on file with the coordinator in the Office of Teacher Education. These must be on file by the tenth day of the semester for which the student is applying.
3. Prior to the professional semester, the intern must have completed a minimum of 20 semester hours in the subject proposed to teach. The course work involved must meet the approval of the department chairperson of that major department. (Course work and/or performance required may be obtained from the department concerned.) An up-to-date list of approved majors in the teacher education program may be found in the booklet, *The Teacher Education Program*, or requested from the Office of Teacher Education.
4. The student must have completed a minimum of 100 clock hours of pre-student teaching field experiences.
5. The student must have completed 75 semester hours of credit with a minimum cumulative average of 2.25 before beginning work in student teaching.
6. Each of those courses which are a part of the professional education sequence prior to the professional semester must have been completed with a grade of C or better. (Education 301, 302, 303, 304 and 312. The following courses are approved substitutes for Education 312 as a part of the professional education requirements for the majors indicated: Music 304 and 306 for music majors; Speech Communication 230 and 390 for speech majors; and Communication Disorders and Sciences 494, 495, and 496 for communication disorders and sciences.)
7. The student must have completed GSD 101 and GSD 117, 118, or 119 or GSD 120, and one additional English course (GSC, GSD, or English department) with a grade of C or better in each of the last two courses completed.
8. The student must have completed the special methods class required for the major prior to the professional semester.
9. Every student teacher must have a health clearance from the University Student Health Program. The health clearance consists of a tuberculin test. If it is not convenient to come to the health service in Carbondale, students may have a tuberculin test by their own medical doctors. A record of the health clearance must be on file in the Office of Teacher Education by the tenth day of the semester immediately preceding the student's professional semester.
10. The student must have established at least one semester of residence at Southern Illinois University at Carbondale, earning a minimum of 12 semester hours of credit, prior to any professional semester assignment.

Field Experiences Other Than the Professional Semester

Other field experiences for students in the teacher education program are provided in Education 302 and Education 312. Applications for these courses are available in the Office of Teacher Education.

Psychology (Department, Major, Courses)

The undergraduate major in psychology is primarily aimed at providing broad general education rather than specialized professional training in psychology. To become a professional psychologist usually requires the completion of two to four or more years of postgraduate study.

Students planning to complete a major in psychology must formally declare their intention with the supervisor of the undergraduate curriculum in the Department of Psychology, Room 229, Life Science II. The declaration should be made as early as possible.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72.)	(4) + 8-14
<i>Requirements for Major in Psychology</i>	28-30
GSB 202	(3)
Mathematics 139	(3)
Psychology 211	4
Psychology electives: (8 courses) The electives must be distributed so at least three courses are chosen from Group A and three from Group B. At least one course must be chosen from 311, 312, 314, 315, 316. At least two of the selections must be at the 400 level.	
Group A: 301, 303, 304, 305, 307, 316, 320, 322, 323, 330, 333, 421, 431, 432, 440, 451, 459, 461, 463	
Group B: 309, 310, 311, 312, 314, 315, 404, 407, 409, 411, 415, GSA 302	
Psychology 391, 392, 394, 399, 489, and any of those in the above two groups may be used to satisfy the remaining two nondistributed electives. Refer to course descriptions for limitations.	
Psychology 101, 106a, b, and 289 may not be used to satisfy major requirements	24-26
<i>Electives</i>	31-39
<i>Total</i>	120

Minor
A minor in psychology consists of 15 hours (a minimum of five courses) of psychology courses from those acceptable for the major.¹

¹Students completing a minor in psychology for purposes of obtaining teacher certification in the State of Illinois must complete a minimum of 18 semester hours in the minor area.

Senior Honors Program

A small number of students is selected each year for the honors program. Selection criteria are promising academic performance (3.0 overall grade point average and 3.25 psychology grade point average minimum), expressed interest, recommendation by departmental adviser, and capacity of program to take new students. Emphasis is on small seminar and individual research work by the student.

Courses

101-3 Developing Effective Relationships. The process of group encounter is used to help students achieve a better understanding of themselves and others. Selected readings in interpersonal encounter supplement the experiential laboratory.
106-8 (4, 4) Drug Abuse and the Helping Relationship. A two-course sequence on drug-related problems and developing potential as a helping agent. (a) Examination of drug information.

experience with small groups, communication, and helping skills. (b) Further development of skills; small group and student-designed action projects. Must be taken in a,b sequence. Prerequisite: consent of instructor. Mandatory Pass/Fail.

211-4 Research Methods in Psychology. An introduction to the application of scientific methods to the study of behavior. Experimental design and methodology and correlational procedures are considered. Considerations of data analysis and interpretations are integrated with the treatment of design and methodology. Lecture and laboratory. Prerequisite: GSB 202.

289-1 to 12 Undergraduate Seminar: Selected Topics. Varied content. Offered as need exists and as faculty interests and time permit. Prerequisite: consent of instructor.

301-3 Child Psychology. The biological and psychological development of the child from birth through puberty, and relevant research methods and results. Prerequisite: GSB 202. Elective Pass/Fail.

303-3 Adolescent Psychology. Examines the physical and psychological development of the adolescent, and the relevance of childhood development to adolescent problems. Prerequisite: GSB 202. Elective Pass/Fail.

304-3 Psychology of Maturity and Old Age. A consideration of psychological factors in later maturity and old age, and their concomitant problems, both individual and social. Prerequisite: GSB 202. Elective Pass/Fail.

305-3 Psychology of Personality. The inferred patterns underlying an individual's unique reactions to the environment. Investigates the motivation, development, and methods of changing these patterns, and how personality processes are studied. Prerequisite: GSB 202. Elective Pass/Fail.

307-3 Social Psychology. Introduction to the area of social psychology. Considers methodology, person perception, interpersonal attraction, attitude formation and change, social influence, group processes, intergroup conflict, and other contemporary issues in social psychology. Prerequisite: GSB 202. Elective Pass/Fail.

309-3 Psychology of Learning. Principles and laws of learning as derived from the classical and instrumental learning literature — acquisition, extinction, punishment, persistence, generalization, discrimination, motivation, drives, and incentives. Prerequisite: 211.

310-3 Cognitive Psychology. A survey of theory and research on attention, memory, language behavior, and problem solving. The principal orientation will be the information processing approach to the study of behavior. Prerequisite: GSB 202.

311-3 Experimental Psychology: Learning. Investigates the processes governing behavioral change covered in 309. Experimental studies of conditioning, memory, and forgetting will be emphasized. Laboratory work will include the design and conduct of experiments with humans and/or animals. Prerequisite: 309.

312-4 Experimental Psychology: Perception. Investigates the variables influencing an organism's stimulation by the environment. The structure and operation of the sense organs as well as complex perceptual phenomena are examined in lectures and laboratory. Prerequisite: 211.

314-3 Experimental Physiological Psychology. A survey through readings and laboratory exercises, of selected topics in physiological psychology. The biological bases of sexual behavior, motivation, and memory are emphasized. Prerequisite: GSA 302, Psychology 211.

315-3 Experimental Psychology: Cognitive Processes. The student conducts three or four experiments in cognitive psychology. The first experiments are described in detail by the instructor; the final experiment is one of the student's own design. Prerequisite: 211, 310.

316-3 Experimental Psychology: Social. A laboratory and lecture course designed to familiarize the student with basic research methodology in experimental social psychology. Prerequisite: 211, 307.

320-3 Industrial Psychology. A study of the use of psychological methods in the analysis of human factors problems in business and industry. Prerequisite: GSB 202. Elective Pass/Fail.

322-3 Personnel Psychology. Covers the use of psychological methods in the analysis of jobs and in the selection, placement, and evaluation of personnel in business and industry. Prerequisite: GSB 202. Elective Pass/Fail.

323-3 Psychology of Employee Relations. Job satisfaction and morale, psychological aspects of labor relations, interviewing methods, and human relations training. Prerequisite: GSB 202. Elective Pass/Fail.

330-4 Psychology Applied to Personal Adjustment. Review of psychological methods potentially useful in self-improvement. Training and practice in learning to use various learning procedures with typical problems in everyday living. Effectiveness assessed and discussed in small groups or confidentially with instructor. Prerequisite: six hours of psychology or consent of instructor.

333-3 Psychology of Women. (Same as Women's Studies 341.) An examination of empirical evidence on the biological, psychological, and social functioning of women, describing women's roles, the genetic versus social determinants of women's behavior, and the implications for women's potential. Prerequisite: GSB 202 or consent of instructor. Elective Pass/Fail.

391-1 to 9 Individual Project. Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. A maximum of three hours of 391 or

- 392 may count toward the major or minor. Prerequisite: consent of instructor. Mandatory Pass/Fail.
- 392-1 to 9 Individual Project.** Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. For use in those cases where the faculty member deems a graded course to be appropriate. A maximum of three hours of 391 or 392 may count toward the major or minor. Prerequisite: consent of instructor.
- 394-1 to 9 Undergraduate Practicum in the College Teaching of Psychology.** Supervised practicum in the college teaching of psychology for selected senior psychology majors. (A maximum of three hours may count toward the major.) Prerequisite: senior psychology major and permission of instructor.
- 399-1 to 9 Research and Investigation: Honors.** Intensive study in selected areas for students qualified for honors work in psychology. A research paper or equivalent will be required. Prerequisite: consent of chairperson.
- 404-3 Theories of Perception.** An examination of the different theories concerned with an organism's sensory contact with the environment. Physiological, social, and organizational theories of perception will be considered. Prerequisite: 211 or consent of instructor.
- 407-3 Theoretical Issues in Learning.** An introduction to the major theoretical issues in learning and their importance. A brief review of the history of such problems will be followed by a summary of the current research concerning these issues. Traditional figures in learning theory will be considered within the context of their positions on specific questions. Prerequisite: 309 or equivalent.
- 409-3 History and Systems of Psychology.** A review of the conceptual and empirical antecedents of modern psychology. Prerequisite: senior status.
- 411-3 Principles of Training.** An in-depth coverage of practical problems concerned with training to which the principles of learning derived from pure laboratory investigations can be applied. Prerequisite: 309.
- 415-4 Psychopharmacology.** A survey of the effects of drugs on the normal and abnormal behavior of humans and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous and endocrine systems. Prerequisite: GSA 302, GSB 202. Elective Pass/Fail.
- 421-3 Psychological Tests and Measurements.** Introduction to test theory and test development. Detailed coverage of selected tests from such areas as intelligence, aptitude, and personality. Prerequisite: six hours of psychology.
- 431-3 Psychopathology.** Classification, description, etiology, and treatment of the disorders of personality organization and behavioral integration. Observations in a state mental hospital setting. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.
- 432-3 Psychopathology of Childhood.** An extensive review and systematic evaluation of theories and research pertaining to the behavior disorders of childhood. Emphasis will be upon empirical data and the implications of these data for the classification and treatment of these disorders. Prerequisite: 301, and 211 or Guidance and Educational Psychology 422.
- 440-3 Theories of Personality.** A review and evaluation of major personality theories and their supporting evidence. Prerequisite: 305 or consent of instructor. Elective Pass/Fail.
- 451-3 Advanced Child Psychology.** An assessment of concepts, methods, and research techniques within selected topic areas of developmental psychology. Prerequisite: 211 and 301, or consent of instructor.
- 459-3 Theory and Practice in the Preschool.** Designed for those interested in the education of the preschool-aged child. Examines a variety of topics and provides lectures, demonstration, and practicum experience in the Child Study Cooperative Nursery. Prerequisite: consent of instructor.
- 461-3 Advanced Social Psychology.** Examines in depth current research in experimental social psychology. Emphasis is placed on topics such as person perception, interpersonal attraction, attitude formation and change, social influence, group processes, intergroup conflicts. Not for psychology graduate students. Prerequisite: 211, 307.
- 463-3 Attitudes: Theory and Measurement.** Surveys social psychological theories of attitudes and techniques of attitude scale construction. Students work with existing data files and design and test original scales. Prerequisite: 307.
- 489-1 to 12 Seminar: Selected Topics.** Varied content. Offered as need exists and as faculty interests and time permit. Prerequisite: consent of instructor.
- 510-3 Learning Processes.**
- 511-3 Human Learning and Memory.**
- 512-4 Sensory Processes.**
- 513-3 Human Psychophysiology.**
- 514-4 Neurobiological Bases of Behavior.**
- 515-3 Theory and Research in Cognitive Psychology.**
- 520-3 Applications of the Psychology of Learning and Memory.**
- 522-8 (4, 4) Experimental Design and Analysis.**
- 523-3 Research Methods in Clinical Psychology.**
- 524-3 Multivariate Methods in Psychology.**
- 525-3 Mental Test Theory.**

526-3 Research in Counseling Psychology.
 527-3 Theory and Methods of Scaling.
 528-3 Decision Analysis: Techniques for Aiding Decisions.
 530-4 (2, 2) Systems of Personality and Psychotherapy.
 531-3 to 6 Community and Institutional Field Placement.
 532-2 Experimental Approaches to Personality.
 533-2 Experimental Approaches to Psychopathology.
 534-3 Principles of Behavior Therapy.
 535-3 Psychopathology.
 536-3 Fundamentals of Counseling.
 538-3 Theory and Practice of Group Facilitation.
 539-3 Experimental Approaches to Psychotherapy.
 540-3 Psychological Assessment.
 542-3 Principles and Problems in Personality Assessment.
 547-3 Appraisal in Counseling.
 548-3 Vocational Psychology and Career Development.
 549-3 Behavioral Assessment.
 551-3 Advanced Developmental Psychology I.
 552-3 Advanced Developmental Psychology II.
 554-3 Developmental Theories.
 555-3 Language and Cognition.
 556-2 Psychological Treatment of the Child.
 557-2 Family Psychotherapy.
 558-3 Personality and Social Development of Adults.
 564-3 Program Evaluation: Experimental and Quasi-Experimental Approaches.
 571-6 (2, 2, 2) Proseminar in Applied Experimental Psychology.
 576-3 Human Engineering.
 585-1 to 18 Advanced Seminar.
 590-1 to 12 Readings in Psychology.
 593-1 to 24 Research in Psychology.
 594-1 to 16 Practicum in Psychology.
 595-1 to 12 Internship.
 596-3 Behavior Therapy Practicum.
 597-1 to 15 Preprofessional Training.
 598-3 Ethical and Professional Problems in Psychology.
 599-1 to 6 Thesis.
 600-1 to 24 Dissertation.
 601-1 to 12 per semester Continuing Research.

Public Visual Communications (Major [Graduate only], Courses)

The graduate faculty in public visual communications, consisting of members of the Departments of Cinema and Photography and Radio-Television of the College of Communications and Fine Arts, offers graduate work leading to the Master of Arts degree. The public visual communications program has as its objective the development of visual media personnel to serve the communicative needs of society and to prepare interested graduates for doctoral study. The program has been structured with flexibility so as to serve holders of baccalaureate degrees in cinema and photography and radio-television as well as those who hold degrees in other disciplines. For a more complete description of the program, refer to the Graduate Catalog.

Courses

500-3 Introduction to Public Visual Communications.
 510-3 Researching and Developing Public Telecommunications Programming.
 530-3 International Telecommunications.
 532-3 Audience Communications Research.
 541-6 (3, 3) Seminar: History of Photography.
 542-6 (3, 3) Seminar in Film History.
 570-3 Public Telecommunications Program Analysis and Criticism.
 571-3 Regulation and Control of Public Communications.
 572-4 (2, 2) Management of the Photographic Unit.
 573-3 Public Telecommunications Management.
 574-3 Contemporary Theoretical Approaches to the Cinema.

- 580-2 Seminar: Current Trends in Public Telecommunications.
- 589-3 Seminar: Public Communications in a Dynamic Society.
- 591-1 to 6 (1 to 3, 1 to 3) Individual Study in Public Visual Communications.
- 595-1 to 6 (1 to 3 per topic) Advanced Topical Seminar.
- 597-2 to 6 Production Seminar: Cinema, Photography, and Television.
- 599-3 to 6 Thesis.
- 601-1 to 12 per semester Continuing Research.

Radio-Television (Department, Major, Courses)

The Department of Radio-Television prepares students for positions in broadcasting and telecommunications by combining practical and theoretical courses in broadcasting with a broad liberal arts background. In addition to classroom instruction and laboratory experiences, the department encourages its students to become involved in actual on-air activities with WSIU-FM or WSIU-TV, WIDB-Radio or local stations as an extracurricular addition to their studies. An internship program is included in the formal curriculum.

The core courses, Radio-Television 300m and 300p, must each be completed with a grade of C or better and the typing, English, and language requirements described below must be met before students will be formally accepted as majors in the department. Students who meet these requirements must also complete Radio-Television 308, 340, and 393 with a grade of C or better.

Each student enrolled in the radio-television program must complete by the end of the sophomore year or, if a transfer student, by the end of the first semester of enrollment at Southern Illinois University at Carbondale:

- 1. GSD 101 and GSD 117 or 119 with a grade of B or 290 with a grade of C;
- 2. A departmentally administered typing test at a minimum speed of 30 words per minute, or attain a grade of B or better in Secretarial and Office Specialties 100.
- 3. Radio-Television 300m and 300p with a grade of C or better before enrolling in any other radio-television course. Students must have completed twenty-six semester hours of credit before taking Radio-Television 300m and 300p. These courses may not be repeated more than once.

Transfer students must complete a minimum of 17 hours in radio-television courses at Southern Illinois University at Carbondale to earn a degree.

Bachelor of Arts Degree, College of Communications and Fine Arts

General Studies Requirements.	45
Requirements for Major in Radio-Television	46
Radio-Television 300m, 300p, 308, 340, 393 with a grade of C or better are required. Must include at least one 400-level radio-television course. Radio-Television electives to bring total in the department to 38.	38
Language Requirement.	8
A foreign language or computer programming must be selected to meet this requirement.	
Minor in a Related Area.	15
All 15 hours must be in a single department beyond General Studies courses. Students should check with departmental advisers for a list of recommended minors.	
Electives	14
Total.	120

Courses

200-3 Understanding Radio and Television. Review of responsibilities of television viewers and radio listeners, critical viewing and listening of radio and television programs. Analysis of

techniques and content of programs. Lecture, discussion, critical review. Not for majors in radio-television. Credit will not count toward the major. Not open to students with credit in 300M or 300P.

300M-4 Radio-Television Writing Performance Production. Introduction to the functions, theories, materials and techniques of writing, performing, and production for radio and television. Students write, perform, and produce in radio and television studio laboratories. Extra fee for books and supplies \$10. Note: Radio-Television 300M and 300P are both prerequisites for all other courses. Students must attain a grade of *C* in these courses before taking other courses in the department. Prerequisite: sophomore standing.

300P-4 History and Foundations of Radio-Television. Basic communications theory as applied through the history, economics, government regulation of the American system of broadcasting, and in broadcasting programming and audience analysis. Prerequisite: sophomore standing.

305-2 Audience Research and Ratings Analysis. The interrelationships of programs and audiences. Methods of audience and program research. Ratings analysis, station surveys. Survey of relevant research in radio-television. Prerequisite: *C* in 300M and 300P.

308-3 Radio-Television Policies, Laws, and Regulations. Development of American radio and television policies from their constitutional base through federal law, regulatory agencies, and the judicial system. Rights and responsibilities of radio and television organizations and of the public. Required for majors. Prerequisite: *C* in 300M and 300P.

310-3 Radio-Television News Writing. Selecting, writing, rewriting, and editing news material for presentation on radio and television information programs. Laboratory hours required. Prerequisite: *C* in 300M and 300P.

311-3 Radio News. The basic techniques of writing, rewriting, and editing news from local and wire service sources, plus reporting and editing by means of audio tape. Students must have daily access to an audio tape recorder and are encouraged to obtain their own cassette recorder. Laboratory hours required. Prerequisite: *C* in 300M and 300P, 310 or consent of instructor.

325-3 Survey of Cable Communications. History and projections of CATV industry growth, patterns of regulation and use. Relation of cable communications to other media, and to society. Extensive readings and discussion of the literature. Prerequisite: *C* in 300M and P.

335-3 CATV Programming-Production. Presents theoretical approaches to programming for cable systems originating programs, as well as practical workshop experience in creating and producing such programming. Laboratory hours required. Prerequisite: *C* in 300M and P; 325.

340-3 Television Criticism. History and analysis of television genres. Analysis and evaluation of technique, content, and aesthetic effect of television messages. Extensive reading in critical literature, written assignment. Required for majors. Prerequisite: *C* in 300M and 300P.

351-3 Broadcast Programming. Discussion and analysis of radio and television programming formats, strategies, and scheduling. Prerequisite: *C* in 300M and 300P, 305 or consent of instructor.

360-4 Radio-Television Performance. The development of disciplines controlling vocal and visual mechanics and interpretative performance for announcers, newscasters, interviewers, and narrators of various radio and television situations. Laboratory hours required. Prerequisite: *B* or better in 300M, 310, or 383 or consent of instructor, Communication Disorders and Sciences 104, or Theater 203.

363-3 Producing for Radio. Planning and producing for the special requirements of the medium. Study of differing formats; production of short forms in laboratory exercises. Laboratory hours required. Prerequisite: 383 or consent of instructor.

365-3 Producing for Television. Planning and producing for the special requirements of the medium. Research, planning, and budgeting for individual and series productions. Laboratory exercises. Final projects carry over to 369. Laboratory hours required. Prerequisite: *C* in 300M and 300P, 383 or consent of instructor.

369-3 Directing for Television. Applications of communications theory and unique characteristics of the medium in directing televised productions. Laboratory hours required. Prerequisite: 363 and 365 with a grade of *B* or better or consent of instructor.

370-3 Television News. Techniques in writing, reporting, shooting, and editing utilizing small format ENG equipment. Students purchase a minimum of two half-inch videotape cassettes. Laboratory hours required. Prerequisite: 311 or consent of instructor.

371-2 Graphics for Television. Various techniques in the special demands of the graphic arts in television. Laboratory hours required. \$10 cost for additional laboratory materials. Prerequisite: *C* or better in 300M and 300P.

377-3 Radio and Television Sales and Sales Management. A marketing approach to station and system sales. Use of ratings, RAB, TVB, and station promotion material. Includes selling methods and techniques and sales management techniques (systems approach, inventory control, pricing). Prerequisite: 305 or consent of instructor.

383-3 Writing for Radio-Television. Experience in writing radio and television formats, and

announcements — commercial, public service, and promotional. Develops critical awareness and analytical attitude toward broadcast writing, and stresses imagination and creative writing skills. Frequent written assignments in and out of class. Prerequisite: C in 300M and P; 340.

384-1 Radio and Television Practicum. Practical experience in broadcast operations on the campus. Instructor makes determination on student duties, based on needs of the Broadcast Service and, to the extent possible, the desires of the student. A minimum of four hours per week. Students may obtain application form from departmental advisor. Prerequisite: 14 hours in radio-television and consent of instructor. Mandatory Pass/Fail.

390-4 Radio and Television Management Principles. Objectives, procedures, policies, and costs in radio and television station development and operation. Prerequisite: 351 and 377 or consent of instructor.

391-2 Independent Study. Area of study to be determined by student in consultation with radio-television faculty. No more than two students may work on the same project. Prerequisite: 14 hours in radio-television and consent of instructor.

393-3 Radio, Television, and Society. The interrelation of radio and television with social patterns and economic and political systems. Major theories of broadcasting. Effects of these media on society. Required for major and should be taken during student's last semester. Prerequisite: C in 300M and 300P, 308 and 340; completion of 86 hours or consent of instructor.

395-4 Internship Program. News production, performance, or management sales work experience with a non-university professional organization. The student will be provided an educational experience beyond that available at the university. No possibility of retroactive credit for previous work experience. Prerequisite: junior status, at least 14 hours in radio-television, grade point average of 3.0 or better in major, consent of instructor, and approval of undergraduate curriculum committee.

430-2 Public Affairs Programming. Examination of history and scope of public affairs programming. Effects of public affairs on programs and audiences. Responsibility of radio and television stations in public affairs and community relations. Prerequisite: senior standing and C in 300m and 300p.

453-2 Public Broadcasting. The history and regulatory structure of public broadcasting in the United States today, with special emphasis on organizations regulated under the Public Broadcasting Act of 1967. Methods of funding public stations, programming, and careers in public broadcasting are also considered. Prerequisite: C grade in 300M and 300P; 308.

467-3 Radio-Television in International and Agricultural Development. An examination of broadcasting theory related to rural audiences in the United States and abroad. History of farm broadcasting in the United States and abroad. Communication in development is explored. Research on effects on rural audiences. Open to non-majors with consent of instructor. Prerequisite: senior standing and C in 300m and 300p.

481-3 Non-Broadcast Television. An examination of the special requirements of business, industrial, and medical uses of television. Management, budgeting, planning, and evaluating productions. Exploration of cable television, satellites and other technologies used in non-broadcast situations. Prerequisite: senior standing and 325, 365, or consent of instructor.

483-3 Advanced Radio-Television Writing. Exercises in writing broadcast manuscripts including documentary, drama, and children's programming. Prerequisite: senior standing and 340, 383, or consent of instructor.

489-2 to 6 Radio Television Workshop. Advanced work in various areas of radio-television and interrelated disciplines. Prerequisite: C grade in 300M, 300P, and consent of instructor.

491-3 Independent Study. Areas of study to be determined by student in consultation with graduate faculty. No more than two students may work on same project. Students must complete an application form which is available from the departmental adviser. Prerequisite: senior standing and consent of instructor.

Radiologic Technology (Program, Major)

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Radiography is an allied health specialty concerned with the production of x-ray films which enable the physician to diagnose disease processes occurring in the human body. The course of study involves mastering the ability to control radiation production and the ability to position the body properly in order to obtain radiographs of the required anatomical structure.

The curriculum is designed to prepare students to become registered radiologic technologists. Completion of the program provides graduates with the educational requirements necessary to take the national certification examination administered by the American Registry of Radiologic Technologists.

To be accepted into the radiologic technology degree program the student must have completed the requirements for the allied health careers specialties program. These advanced radiologic technology courses combine classroom and clinical education, which upon completion allows the graduate to become registry eligible and to receive an Associate in Applied Science degree in radiologic technology.

The courses can be completed in two summer sessions and two regular semesters. The summer sessions and the regular semester sessions will utilize both classroom and clinical education learning experiences, along with elective courses.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Radiologic Technology

Completion of Allied Health Careers Specialties degree program	65
Radiologic Technology Advanced Courses (Allied Health Careers Specialties designated)	30
Electives	6

Total 101

Courses

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Recreation (Department, Major, Courses)

The Department of Recreation prepares the student for positions in the management of leisure services. The department builds its curriculum on a broad General Studies foundation, offers professional and skills courses within the Department of Recreation, and draws from many related departments of the University for competencies and skills in the preparation of leaders for the recreation profession.

The curriculum emphasizes the practical as well as the theoretical aspects of recreation by offering supervised field experience, and internships in various recreational settings throughout Illinois and the nation.

Students admitted to the Department of Recreation must meet the College of Education requirements and follow their procedures for acceptance. In order to be admitted to practicum courses, students must have a grade point average of 2.25 and the consent of the instructor. Students who do not meet the College of Education requirements must be screened and approved by the department undergraduate faculty.

Students majoring in recreation are required to complete 45 hours of General Studies, 22 hours of professional courses, a total of 16 hours of leadership experience in at least two areas of interest, and work closely with the department advisers in selecting electives for their chosen area of specialization.

The Department of Recreation offers courses leading to specialization in (1) park and community recreation, (2) therapeutic recreation, (3) outdoor recreation, and (4) commercial recreation management.

Students majoring in recreation should start early in their college careers developing skills and competencies in music, dance, arts and crafts, literature, sports and games, nature, drama, and other leisure and cultural areas. The American Red Cross life saving certificate, American Camping Association campcraft certificate, workshop certificates in recreation sponsored by the state and national recreation and park associations are encouraged for each student. Students focusing on a therapeutic orientation should attempt to acquire either academic or practical experience related to physiological, psychological and sociological functioning and the concomitant effect of disability.

As soon as possible recreation majors will decide on one of the four specializa-

tions and elect courses for their areas of specialization. All undergraduate recreation majors will be advised by educational advisement until they have completed the General Studies requirements. Recreation advisers are available to students to explain job opportunities and to outline required and elective courses in their chosen specialization.

Bachelor of Science Degree, College of Education

<i>General Studies Requirements</i>	45
<i>Requirements for Major in Recreation</i>	75
English 290 or Journalism 340	3
Health Education 334	3
Six hours selected from Psychology 301, 303, 304, 305, 307, 320, 322, 323	6
Recreation 300, 302, 303, 365, 380-4, 490-12	28
One of the five specializations listed below	35
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<i>Total</i>	120

PARK AND COMMUNITY RECREATION SPECIALIZATION

Recreation 331, 366, 395, 470	11
Six hours selected from Recreation 310a, 310b, 310c, 310d	6
Accounting 210	3
Electives	15
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<i>Total</i>	35

OUTDOOR RECREATION SPECIALIZATION

Recreation 331, 370, 395, 401, 445	15
Accounting 210	3
Electives	17
<hr/>	
<i>Total</i>	35

COMMERCIAL RECREATION MANAGEMENT SPECIALIZATION

Recreation 375, 395, 445	8
Administrative Sciences 170, 304, 385	9
Accounting 210	3
Marketing 305	3
Electives	12
<hr/>	
<i>Total</i>	35

THERAPEUTIC RECREATION SPECIALIZATION

Recreation 304, 460, 461, 462	12
Four hours selected from Recreation 310a, 310b, 310c, 310d, 310e	4
Six hours selected from Recreation 440a, 440b, 440c, 440d, 440e	6
Rehabilitation 409, Psychology 211, or Sociology 312	3-4
GSA 209 or Physiology 210	3-5
Physiology 300 or 301	3-4
Psychology 431 or 432	3
Electives	0-1
<hr/>	
<i>Total</i>	35-36

Minor

Students may earn a minor in recreation by completing at least 18 hours of course

work. Recreation 300, 302, 303, and 365 are required. The remaining hours may be taken in any recreation courses the student desires. Students wishing to earn a minor in recreation must receive written approval from the Department of Recreation.

Courses

300-3 Leisure and Recreation. An introduction to the professional field of recreation. A study of the historical, philosophical, sociological, psychological, and economic development of leisure and recreation. Insight into the fundamental concepts, values, and functions of leisure and recreation as an individual emotional experience as well as a necessary part of community life.

302-3 Recreation Program Leadership. A study of essential elements and basic principles involved with the organization and administration of various types of recreation programs and services. Emphasis on leadership processes and methodology. Prerequisite: 300 or consent of department.

303-3 Recreation For Special Groups. Problems and characteristics of special groups in society such as teenagers, aged, emotionally disturbed, mentally retarded, physically handicapped, prisoners, and delinquents. Emphasis on leadership processes, methodology, and program materials. Prerequisite: 300 or consent of department.

304-3 Principles and Practices of Therapeutic Recreation. Study of the existing practices and principles utilized in therapeutic recreation; professionalism; legislation; team approaches; activity analysis; supervision functions; community resources; special recreation programs. Prerequisite: 300, 302, 303.

310-10 (2, 2, 2, 2, 2) Recreation Skills. (a) Social recreation, (b) dramatics, (c) leisurecrafts, (d) music and dance, (e) playground activities. Prerequisite: 300, 302, 303 or consent of department.

320-3 Nature in Recreation. Acquaints the student with opportunities for the interpretation of the nature phenomenon. The avocational as well as the vocational aspect of nature will be stressed. Required field trip cost not to exceed \$20. Prerequisite: 300, 302, 303 or consent of department.

330-3 Outdoor Education. Philosophy and principles underlying the programs and methods in modern outdoor education and school camp programs with emphasis on curriculum enrichment through our natural resources. Expenses for required field trip not to exceed \$20. Prerequisite: 300, 302, 303 or consent of department.

331-3 Outdoor Living Skills. Development of techniques for teaching outdoor living skills necessary in a wide variety of recreation programs. The student will be presented with a sample of specific skills including cooking, use of hand tools, fire safety, and others. Methods for teaching various age groups such skills will be discussed. A laboratory charge of approximately \$25 will be required. Prerequisite: 300, 302, 303 or consent of department.

335-3 Expedition Leadership. The skills and techniques needed to plan, organize and conduct expeditions such as overnight hikes, canoe trips, backpacking, field trips, and other types of expeditions. Expenses for required field trips not to exceed \$50. Prerequisite: consent of instructor.

350-6 (1, 1, 1, 1, 1) Recreation Workshops. Current innovations and critical evaluation of methods, materials, and supervision of programs in one of the following areas: (a) day camps, (b) puppetry, (c) storytelling, (d) leisurecrafts, (e) family, and (f) teen centers. Prerequisite: 300, 302, 303 or consent of department.

365-3 Park and Recreation Administration. Administrative procedures in park and recreation departments — organization, finance, personnel, facilities, program, public relations, and other areas of administration. Prerequisite: 300, 302, 303 or consent of department.

366-3 Workshop in Administrative Issues in Recreation. Designed to examine in a workshop current administrative issues in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies, and others. Prerequisite: 365.

367-2 Research and Evaluation in Recreation. An introduction to methodological approaches to the scientific study of phenomena inherent to recreation and leisure. The course includes basic research and evaluation designs, research and evaluation report writing, analysis of current leisure research, and use of computers in leisure research and evaluation. Prerequisite: 300, 302, 303.

370-3 Camp Management. Principles and procedures of selection and supervision of personnel, program planning, food preparation, health and safety, camp maintenance, evaluation, camp counseling, and other responsibilities of camp administration. Prerequisite: 300, 302, 303 or consent of department.

375-2 Commercial Recreation Management. Problems of commercial recreation related to the profit motive and the challenges and possibilities for public service. Opportunities are examined in such areas as civic centers, student unions, spas and resorts, marinas, ice and roller rinks, sports complexes, and other commercial enterprises. Prerequisite: 300, 302, 303 or consent of department.

380-1 to 6 Field Work in Recreation. Supervised leadership experiences in a public or private

recreation setting. It is recommended that a student sign up for two hours per semester. Graduates must complete field experience in at least two areas of specialization. A maximum of six hours of credit may be earned. Prerequisite: 300, 302, 303 or consent of department. **385-1 to 2 Readings in Recreation.** Selected readings in professional publications for the purpose of becoming acquainted with the types of research current in community, park, special populations, outdoor recreation, outdoor education, and related fields. For recreation majors only. Prerequisite: 15 hours in recreation.

386-1 to 2 Problems in Recreation. Designed to enable students to effectively request funds, request personnel, initiate new programs, or support recreation leisure services. Prerequisite: 15 hours in recreation.

395-3 Maintenance of Recreation Areas and Facilities. All phases and principles of development, maintenance, and construction of areas and facilities used in a recreation setting. Stress is put on selection and supervision of maintenance personnel. There is a maximum cost of \$5 for course materials in lieu of textbook. Prerequisite: 300, 302, 303 or consent of department.

401-3 Fundamentals of Environmental Education. (Same as Agriculture 401.)

423-3 Environmental Interpretation. (Same as Agriculture and Forestry 423.)

425-3 Planning Outdoor Areas for Recreation and Education. An examination of master plans for outdoor areas used in school and recreation programs. Principles of masterplanning and practical experience with the master plan will be correlated. Prerequisite: senior or graduate standing.

440-15 (3, 3, 3, 3, 3) Recreation Activities for Special Populations. Students will be made aware of problems and characteristics of special population groups. Emphasis is upon the role of therapeutic recreation with these groups in institutional and community settings: (a) Recreation for the mentally ill and emotionally disturbed. (b) Recreation for the mentally retarded. (c) Recreation for the aged. (d) Recreation for the socially deviate. (e) Recreation for the physically disabled. Prerequisite: 300, 302, 303 or consent of department.

445-3 Outdoor Recreation Management. Philosophy and principles underlying the growth and development of outdoor recreation management. Outdoor recreation is examined in terms of historical values, long range planning, site design, visitor needs, and environment impact. A laboratory cost of up to \$14 may be required. Prerequisite: 300, 302, 303 or consent of department.

460-3 Therapeutic Recreation. Organization and administration of therapeutic recreation programs in hospitals, nursing homes, schools for the retarded, detention centers, prisons, and other institutions. Emphasis on programs for special populations in the community setting. Prerequisite: 300, 302, 303 or consent of department.

461-3 Program Design and Evaluation for Therapeutic Recreation. To equip the student with skills necessary to systematically design and evaluate programs. Philosophy and nature of systems, system analysis, program implementation and program evaluation. Prerequisites: 300, 302, 303, one section of 440, or consent of department.

462-3 Facilitation and Leisure Counseling Techniques. Study of concepts of leisure counseling as applied to special populations; leisure education models: facilitative techniques including gestalt awareness, transactional analysis, reality therapy, behavior modification, non-verbal communication, values clarification, assertive training, rational emotive therapy, and relaxation therapy. Prerequisite: 303, 440.

465-3 Advanced Administrative Techniques. Designed to examine current administrative topics in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies, and others. Prerequisite: 365.

470-2 School and Community Recreation. The role of the public schools in community recreation. Emphasis on current practices and trends in curriculum content, adult education, extracurricular activities, after-school and vacation programs, and cooperative programs with other agencies. Prerequisite: 300, 302, 303 or consent of department.

475-1 to 24 (1 to 4 per topic) Recreation Workshop. Critical examination and analysis of innovative programs and practices in one of the following areas: (a) commercial, (b) student centers, (c) outdoor education, (d) outdoor recreation, (e) mentally retarded, (f) emotionally disturbed, (g) teen centers, (h) family, (i) aging, (j) prisons and detention centers, (k) physically handicapped, (l) budget and finance, and (m) playground leadership. (n) maintenance of areas and facilities. Critical examination and analysis of innovative programs and practices in the maintenance of grounds and facilities. Maximum of six hours to count toward master's degree.

485-2 to 12 Practicum in Outdoor Education. A supervised experience in a professional setting. Emphasis on administrative, supervisory, teaching, and program leadership in outdoor, conservation, or environmental education setting. Costs for travel are the responsibility of the student. Prerequisite: consent of instructor.

490-2 to 12 Internship in Recreation. Supervised practicum experience in a professional recreation setting. Emphasis on administrative, supervisory, teaching, and program leadership in the student's area of specialization. For undergraduate credit only. Must be taken during student's senior year. Prerequisite: 16 hours of recreation and consent of instructor.

500-3 Principles of Recreation.

520-3 Park and Recreation Management.

- 524-3 Professional Skills in Therapeutic Recreation.
- 525-3 Recreation for Special Populations.
- 526-3 Professional Issues in Therapeutic Recreation.
- 530-3 Programs in Recreation.
- 550-3 Research in Recreation.
- 560-6 (2, 2, 2) Seminar in Recreation.
- 565-3 Seminar in Environmental and Outdoor Education.
- 570-3 Seminar in Recreation Management.
- 575-1 to 6 Individual Research.
- 580-1 to 6 Readings in Leisure and Recreation.
- 596-1 to 6 Field Work in Recreation.
- 599-1 to 3 Thesis.
- 601-1 to 12 per semester Continuing Research.

Rehabilitation (Institute, Major [Graduate Only], Courses)

Courses in this department may require the purchase of supplemental materials not to exceed \$10 per course. Field trips are required for certain courses.

Courses

- 400-2 to 3 **Introduction to Rehabilitation.** An introduction to the broad field of rehabilitation, to include the processes (services), facilities and personnel involved. Note: students can enroll in the didactic portion for two credits, or three credits if they elect the field trips. No student can take the field trips alone without taking the didactic portion as well.
- 401-3 **Rehabilitation for Non-Majors.** An introduction to the process and practice of rehabilitation for students not majoring in this field. An overview of counseling, evaluation, physical restoration, adjustment services, job placement, and rehabilitation administration will be presented. Also a survey of client characteristics will be provided. Clients with sensory, physical, developmental, and psychiatric disabilities will be discussed. Career opportunities in rehabilitation will be examined.
- 402-1 to 3 **Human Development and Behavior.** Examines theories and systems of human development, personal behavior patterns and learning principles related conceptually to rehabilitation processes and practices. Prerequisite: consent of instructor.
- 403-3 **Independent Living Rehabilitation.** Survey of principles and methods of independent living for the handicapped with attention to client assessment for rehabilitation, effective techniques for specific handicapped groups, and the variety of types and organization of independent living programs.
- 406-3 **Introduction to Behavior Modification.** A survey of the principles and procedures in behavior modification and the scope of its application to human needs and problems.
- 409-3 **Scientific Methods in Behavior Analysis.** A general review of philosophical issues and methodological approaches to the study of human behavior; includes sampling procedures, group statistical designs and single-subject multi-manipulation and multireplication tactics. Prerequisite: consent of department.
- 419-1 to 3 **Cross-Cultural Rehabilitation.** (Same as Black American Studies 490.) Major focus on the relationship/comparison of basic cultural, economic, and psychosocial processes relative to the rehabilitation of people in contemporary societies. Prerequisite: consent of instructor.
- 421-3 **Vocational Development and Placement.** Relates the psychosocial meaning of work, process of vocational development, theories of occupational choice and labor market trends to current and innovative methods of job development, selective placement, and follow-up with the handicapped. Prerequisite: 400 or 501.
- 425-1 to 6 **Developing Employment Opportunities.** Designed to train rehabilitation personnel in the attitudes, methods, and skills pertinent to placement of handicapped persons in competitive and other occupations. Prerequisite: special standing and consent of instructor.
- 431-3 **Assessment Procedures in Rehabilitation.** Review of fundamental bases of measurement, criteria for evaluating tests, practice with representative instruments in major categories, and the use of tests and work samples in assessing the handicapped's functioning abilities and work potential. Prerequisite: consent of instructor.
- 436-3 to 4 **Vocational Evaluation and Adjustment Services.** Introduction to the philosophies of evaluation and adjustment services in rehabilitation settings with emphasis on the rationale for use of psychometric testing, functional behavioral analysis, work sampling, situational assessment, and on the job evaluation in relation to the development of individualized adjustment service programs.
- 445-2 to 12 **Rehabilitation Services with Special Populations.** Procedures and programs pertinent to the care and treatment of special populations. Two semester credits will ordinarily be granted for each unit.
- (a)-6 (2, 2, 2) **Aging.**

(b)-6 (2, 2, 2) **Alcohol and Drug Abuse.**

(c)-6 (2, 2, 2) **Economically Deprived.**

(d)-6 (2, 2, 2) **Emotionally Disturbed.**

(e)-6 (2, 2, 2) **Genetically Disabled.**

(f)-6 (2, 2, 2) **Juvenile Offender.**

(g)-6 (2, 2, 2) **Mentally Retarded.**

(h)-6 (2, 2, 2) **Physically Handicapped.**

(i)-6 (2, 2, 2) **Public Offender.**

(j)-6 (2, 2, 2) **Sensory Disabled.**

(k)-6 (2, 2, 2) **Developmentally Impaired.** Prerequisite: consent of instructor.

446-2 Psychosocial Aspects of Aging. Selected theories of psychosocial aspects of aging will be presented and the psychological and sociological processes of aging with the ensuing changes will be related to these conceptual frameworks. Included for discussion and related to field experience will be such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging. Topics will address the knowledge base needed by students concerned with rehabilitation of aging clients in institutional, community and home settings. Therapeutic techniques to ameliorate these stresses will be an integral part of the course. Prerequisite: consent of instructor.

447-2 Biomedical Aspect of Aging. The aging process in a life-span developmental perspective; biological theories of aging, physiological changes in middle and old age and their effects on behavior, performance potential, and psychosocial functioning; senility and other age-related disabilities, their prevention and management; geriatric health maintenance and rehabilitation; institutionalization; death and dying. No prerequisites.

451-3 to 4 General Rehabilitation Counseling. A didactic and experiential analysis of the underlying premises and procedures of individual and group counseling in rehabilitation settings. Prerequisite: consent of instructor.

452-3 Behavior Change Applications. An overview of the development and evolution of applied behavior analysis. Applications of behavior analysis to problems of social significance in institutions, schools, and communities are surveyed. Prerequisite: 406 or consent of instructor.

453-1 to 4 Personal and Family Life Styling. The academic and personal competencies that are characteristic of fully-functioning, integrated persons within the context of our twentieth century environment will be systematically reviewed for adoption in every day living as well as in professional functions. Participants will focus on and experience life styling theories, models, and skills for their own growth and development and learn to assess basic risk-factors in their rehabilitation clients and families prior to helping them program a more balanced, synergistic, and holistic approach to living. Prerequisite: consent of instructor.

461-1 or 2 Introduction to Alcoholism. A survey of alcohol abuse and alcoholism, focusing on its development, consequences and rehabilitation; also addressed are population characteristics and other demographic information, as well as relevant legislative and administrative issues.

468-3 Sexuality and Disability. Research and rehabilitation practices pertaining to the unique psychosexual aspects of various chronically disabling conditions will be examined.

471-2 Rehabilitation of the Alcohol Abuser. A comparative survey of community based programs for the alcohol and substance abuser with a focus upon the rehabilitation counselor's role in planning, evaluating and facilitating the use of community resources and varying service agencies in the rehabilitation process for the substance abuser. Prerequisite: permission of instructor.

479-3 Technical Writing in Rehabilitation. Fundamentals of writing skills for rehabilitation specialties, including preparation and drafting of program/grant proposals, vocational evaluation/work adjustment reports, news releases and other publicity materials. Prerequisite: consent of instructor.

490-1 to 6 (1 to 3 per semester) Readings in Rehabilitation. Supervised readings in selected areas. Prerequisite: consent of instructor.

494-1 to 12 Work Experiences in Rehabilitation. Rehabilitation 494 and 594 both cannot be counted for a graduate degree, only one or the other can satisfy requirements toward a master's degree. Elective Pass/Fail.

501-2 Rehabilitation Foundations.

503-3 Basic Behavior Analysis.

508-3 Complex Behavior Analysis.

513-1 to 4 Medical and Psycho-Social Aspects of Disability.

515-3 Behavioral Applications to Medical Problems.

523-3 Job Restructuring for the Handicapped.

525-3 Developing Job Readiness.

531-3 Individual Assessment Procedures in Rehabilitation.

533-2 Vocational Appraisal.

535-1 Behavioral Observation Methods.

543-3 Child Behavior.

545-3 Behavior Modification in Mental Retardation.

553-3 Learning Therapies for Special Populations.

- 554-3 Behavior Therapy.
 557-2 to 6 Self Regulation of Behavior.
 558-2 Rehabilitation with Special Alcoholic Populations.
 562-3 Rehabilitation Facilities and Developmental Centers.
 563-3 Behavior Analysis: Community Applications.
 564-3 School Related Behavior.
 568-3 Sexual Behavior and Rehabilitation.
 570-3 Rehabilitation Administration.
 572-1 to 3 Volunteer Administration and Programming.
 573-2 to 3 Programming, Budgeting, and Community Resources.
 574-3 Staff Training and Development.
 575-2 Case Management and Reporting.
 576-2 to 3 Development and Supervision of Rehabilitation Employees.
 578-3 Program Evaluation in Rehabilitation.
 579-3 Advanced Fiscal Management in Rehabilitation.
 580-3 Professional and Community Relations in Rehabilitation.
 581-4 (2, 2) Professional Issues in Rehabilitation.
 582-1 to 4 Seminar in Rehabilitation Services.
 583-1 to 4 Seminar in Work Evaluation.
 584-1 to 6 (1 to 2 per semester) Seminar in Behavior Modification.
 585-1 to 4 Seminar in Counseling/Coordination Services.
 586-3 Seminar in Job Development and Placement.
 587-3 Seminar in Correlates of Disability.
 588-4 Seminar in Research in Rehabilitation.
 589-1 to 18 (1 per semester) Professional Seminar in Rehabilitation.
 591-1 to 18 Independent Projects in Rehabilitation.
 592-1 to 16 Professional Supervision in Rehabilitation.
 593-1 to 18 Research in Rehabilitation.
 594-1 to 12 Practicum in Rehabilitation.
 595-1 to 12 Internship in Rehabilitation.
 596-4 Research Design and Methodology in Rehabilitation.
 599-1 to 6 Thesis.
 600-1 to 30 Dissertation.
 601-1 to 12 per semester Continuing Research.

Religious Studies (Department, Major, Courses)

Religious studies examines religious attitudes and behaviors from their earliest beginnings through their dominant forms, east and west, to their modern developments and alternatives, pointing continually to the question, How is religion possible today? Study of this kind makes an interdisciplinary contribution to a liberal education in the humanities and social sciences and also provides a useful base for graduate study in religion, in the arts, or in any of the helping professions such as the ministry, medicine, psychiatry, law, social work, and public service.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72.)	(4) + 8-14
<i>Requirements for Major in Religious Studies</i>	28
Minimum hours from each of two areas as follows:	
Area A: Religious Studies 231, 320a,b, 331, 332, 333, 334a,b, 336, 337, 410f, 441	9 ¹
Area B: Religious Studies 201, 240, 301, 302, 341, 353, 362, 441, Sociology 351	9 ¹
Free electives from Areas A or B	10 ¹
<i>Electives</i>	33-39
<i>Total</i>	120

¹Religious Studies 396 and 496 may be designed so as to apply toward fulfilling requirements of either Area A or Area B. By special permission of the department, students may earn up to six hours major credit with courses taken in other departments, such credit to apply to Area A or Area B, or the free elective group as the department shall determine.

Minor

Students may take a minor in religious studies by completing at least 13 hours of courses in the department, excluding GSC 216, 217, and Religious Studies 496.

Courses

201-3 Issues in Religion. Introduction to religion and its study, illustrated by cross-cultural examples.

231-3 Introduction to American Religion. An introduction to major cultural-historical patterns in American religious experience in the nineteenth and twentieth centuries. Elective Pass/Fail.

240-3 The Self and the Sacred. Cross-cultural and contemporary images of the self as they relate to self-understanding, the environment, society, and the cosmos. Elective Pass/Fail.

260-3 Religious Novels, Plays, and Films. How writers and artists either support or challenge conventional religious values through the media of literary works, theater, and film. Elective Pass/Fail.

301-3 Philosophy of Religion. (See Philosophy 301.)

302-3 Religion, Reform, Revolution. Changing patterns in religion since the Second World War. Elective Pass/Fail.

320-6 (3, 3) Biblical Studies. A survey of Jewish and Christian biblical writings: how they came to be written, for what purposes, and with what effects. (a) The Old Testament. (b) The New Testament. Elective Pass/Fail.

331-3 Special Topics in American Religion. Selected themes, periods, or movements in American religion with an option for individual projects. Prerequisite: 231. Elective Pass/Fail.

332-3 Jewish Ideas and Culture. Selected Jewish rites, beliefs, and customs and their cultural roots and consequences. Elective Pass/Fail.

333-4 Myth and Ritual in Archaic Religion. (Same as Black American Studies 385.) The structure of the sacred among selected primitive peoples in Africa, Asia, and the Americas. Primitivism as a mode of being in contemporary culture. Elective Pass/Fail.

334-6 (3, 3) Religions and Cultures of Asia (a) Religions of India — Hinduism, early Buddhism, Sikhism, Jainism, Indian Islam. (b) Religions of the Far East — China (Taoism, Confucianism, Buddhism) and Japan (Shinto, Zen). Elective Pass/Fail.

336-4 The Christian Heritage. A thematic and historical survey of European Christian thought using selected writers such as St. Paul, St. Augustine, Dante, C. S. Lewis, Dietrich Bonhoeffer. Elective Pass/Fail.

337-3 Islamic Religion and Culture. Religious and cultural developments in the Islamic world from Mohammed to current problems of modernization. Elective Pass/Fail.

341-4 Mysticism and Human Transformation. Comparative studies in selected "classical" mystics and their meaning for contemporary world views. Elective Pass/Fail.

353-4 Social Ethics and Modern Society. (Same as Sociology 353.) Methods of social ethics applied to the study of problems in complex society such as: revolution, justice, oppression, escape, peace, and impersonalization. Basic question: How is life in complex society possible?

362-4 Art and the Religious Imagination. How religious insights have been transmitted, transformed, or rejected by works of literature, visual art, and music. Prerequisite: consent of instructor. Elective Pass/Fail.

396-1 to 6 (1 to 3 per topic). Comparative Studies in Religion. Special topics in religion, to be announced in advance. Both students and faculty may suggest ideas. May be repeated as the topic varies up to a maximum of 6 hours. Prerequisite: departmental approval. Elective Pass/Fail.

410F-3 Comparative Religion. (See Anthropology 410F.)

441-3 Themes in Greek Tragedies and the New Testament. (See Classics 441.)

496-1 to 6 Honors Readings in Religion. Topics selected by student and instructor which ordinarily are not covered in depth in regular course offerings. Not available for graduate credit. Prerequisite: consent of department.

Respiratory Therapy Technology (Program, Major)

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Respiratory therapy is an allied health specialty concerned with the treatment, management, control, and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical gases and administering apparatus, environmental control systems, medications, ventilatory control and breathing exercises, cardiopulmonary resuscitation, and measures and maintenance on natural, artificial, and mechanical airways.

The respiratory therapy technology curriculum is designed to prepare students to become registered respiratory therapists. Completion of the course provides graduates with the educational requirements necessary to take the national registry examination administered by the National Board of Respiratory Therapy.

To be accepted into the respiratory therapy technology degree program the student must have completed the requirements for the allied health careers specialties program. These advanced respiratory therapy courses combine classroom and clinical education, which upon completion allows the graduate to become registry eligible and to receive an Associate in Applied Science degree in respiratory therapy technology.

The courses can be completed in one summer session and one regular semester. The summer session will involve a clinical rotation in health facilities that specialize in advanced respiratory therapy care procedures, while the regular semester will utilize both classroom and clinical education learning experience.

Associate in Applied Science Degree, School of Technical Careers

Requirements for Major in Respiratory Therapy Technology

Completion of Allied Health Careers Specialties degree program.....	65
Respiratory Therapy Advanced Courses (Allied Health Careers Specialties designated)	23
Total	88

Courses

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Science (College, Courses)

Courses

257-2 to 8 Concurrent Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for ongoing work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program before registration. Mandatory Pass/Fail.

258-2 to 8 Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for past work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program. No grade for past work experience.

259-2 to 24 Vocational Education Credit. Formal, post-secondary, educational credit earned in a military service or other vocational, technical, or occupational program and directly related to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit is sought by petition and must be approved by the dean and the executive officer of the student's major program.

500-2 Science Information Sources.

Secondary Education

(SEE CURRICULUM, INSTRUCTION, AND MEDIA)

Secretarial and Office Specialties (Program, Specialized Major, Minor, Courses)

Current developments in office systems and related technology have resulted in many opportunities for information support personnel with special interests and extensive, specialized skills. Both men and women find rewarding careers in administrative support, information systems, and court reporting fields.

A student may earn credit by class attendance; transferring credits from an accredited post-secondary school, such as a community college; passing a proficiency examination; credit granted for work experience; or credit granted for work completed in other educational situations.

The student may prepare for a position in a field of special interest by working with an adviser to choose from a variety of allied health, administrative, technical, and business courses to build upon the basic information support requirements in creating an individualized program of study. The student interested in legal information support would take additional courses in legal document production, legal administrative support procedures, and applied law. The administrative assistant student would take courses in administrative document production, administrative support procedures, and office management and supervision. One who wishes to become a medical administrative assistant would develop a program including courses in physiology, health insurance processing, and medical administrative support procedures. Other possible specializations include insurance, engineering-technical, educational, bilingual, word processing, or graphics and design. It is possible to design programs without shorthand. Students in all areas of specialization will receive on-the-job experience related to their specialty area.

Students entering court reporting must be able to type 30 words per minute. In addition, good language skills are recommended. Court and conference reporting may be pursued as a specialization within the associate degree program, and also is offered as a post-associate specialization for those who have completed an associate degree in a related field at a community college or other post-secondary institution. Students combine classroom instruction with actual courtroom experience in the company of an official reporter in preparation for state and national shorthand reporters examinations. Specialized options include court and conference reporting, specialized reporting, and reporting stenographer/notereader.

Moreover, a student may develop a specialty other than those described above in the following manner:

1. The student should consult the program coordinator about a possible program.
2. Students should draft a program which is coherent and unified, showing courses they plan to take, and explaining the purpose of the program.
3. The completed program must have the support of at least one faculty sponsor.

Students who have an excellent background in office skills are eligible for a program of advanced curriculum entry (PACE) which allows students to complete an associate degree in one summer and one year.

The purchase of cassette tapes and supply packets or a charge is mandatory for students enrolled in learning center courses. A list of the requirements for all learning center courses will be sent upon request. Over a two-year period this would amount to \$20 to \$60 per student. Students enrolled in court reporting are required to purchase a shorthand machine at the end of their first year at a cost of approximately \$300.

An advisory committee composed of business and court reporting personnel serves the program. Current members are Margie M. King, personnel officer, St. Louis County National Bank, Clayton, Missouri; Henrietta Lindsey, administrator, corporate employment services, Ralston Purina Company, St. Louis, Missouri; Philip M. Ray, official court reporter, Union County courthouse, Jonesboro; Mary Burchett, legal assistant — office manager, Charles A. William Law Offices, Paducah, Kentucky; Wanda Mangels, legal secretary; Earl Long, Marion; Avis Cardwell, official court reporter, Jackson County Courthouse, Murphysboro; and Lori Mackey, legal secretary, Feirich, Schoen, Mager, Green and Associates, Carbondale.

Associate in Applied Science Degree, School of Technical Careers*Requirements for Specialized Major in Secretarial and Office Specialties*

GSD 101	3
School of Technical Careers 120	3
Vocational Education Studies 302	3
Secretarial and Office Specialties 101a,b,c,d, 104	13.5
Other requirements dependent upon specialty program, Including cooperative experience or practicum	37.5-47

Total 60-69.5

Minor in Secretarial and Office Specialties (for students with a major in Spanish)

The minor in secretarial and office specialties is intended for students who wish to train as bilingual secretaries with a major in Spanish. For those skilled in the secretarial areas of shorthand, typing, and transcription the minor requirements are Secretarial and Office Specialties 106, 107, 109, 201, 205, 208, 232, 233, and School of Technical Careers 101 and 3-7 hours of approved electives in secretarial and office specialties courses. For those unskilled in the secretarial areas of shorthand, typing, and transcription the minor requirements include the courses above and Secretarial and Office Specialties 101a, b, c, d, 102a, b, c, d, and 104.

Courses

100-2 Typewriting. Designed to develop a proficiency in typewriting for students not pursuing a secretarial-related career. The main objective of the course is to develop stroking technique while emphasizing speed and accuracy. In addition to the typewriting skill, manuscript styles with footnotes, personal and business letter styles, and machine manipulation will be included. Lecture two hours. Learning Center two hours.

101-10 (3, 2, 2.5, 2.5) Keyboarding. Upon successful completion of these courses, the student will (a) basic level: develop touch typing techniques, operate machine parts, determine layout of material, machine adjustments, and type basic communications necessary for personal and career purposes, and use correction and carbon copy techniques; (b) intermediate level: set up and type various communication documents; (c) advanced level: set up and type advanced communication documents; (d) pre-specialty level: set up and type special communication documents and develop skill on various electronic and proportional spacing keyboards. Keyboarding speed and accuracy will be emphasized at all levels. Audio-visual-tutorial instruction is utilized at all levels. Lecture two hours. Learning Center three hours per level. Levels must be taken in sequence.

102-10 (3, 2, 2.5, 2.5) Shorthand. Upon successful completion of the course modules, the student will (a) Gregg shorthand theory: demonstrate proficiency in Gregg shorthand theory by reading and writing outlines accurately and rapidly and by taking practice dictation on familiar and related material; (b) basic shorthand dictation and transcription: demonstrate shorthand skill by taking dictation at faster speeds and by transcribing dictated material accurately and rapidly; (c) intermediate shorthand dictation and transcription: attain higher speed and accuracy in shorthand with emphasis on mailability; (d) advanced shorthand dictation and transcription: continue to attain higher speed and accuracy with emphasis on mailability and office-style material. Any shorthand system may be used in modules b, c, and d. Lecture/Learning Center four hours. Modules must be taken in sequence. Prerequisite: 101a for 102a; 101b for 102b; 101c for 102c; and 101d for 102d.

103-7.5 (2.5, 2.5, 2.5) Machine Shorthand. Upon completion of this course, the student will (a) be able to write on the machine by touch words by sound according to the touch shorthand theory patterns; write touch shorthand abbreviations, derivatives, brief forms, and punctuation symbols; read personal shorthand notes as well as printed text notes; (b) take new-matter dictation for five minutes and transcribe the material, transcribe letters in mailable form using the proper spelling, punctuation, English and erasing techniques, and transcribe notes from 20 to 25 wpm; (c) write an extensive vocabulary of words, abbreviations, and derivatives; take new matter dictation for five minutes and transcribe that material accurately. Lecture one hour. Laboratory three hours.

104-3.5 Machine Transcription (Introduction). Upon successful completion of this course, the student will properly operate and care for a transcribing unit and develop transcription speed by typing basic business communications from recordings; develop transcription techniques such as typing, grammar, punctuation, sentence structure, form and arrangement, as well as

develop a higher transcription speed. The student will be required to make decisions in a variety of assignments. Lecture one hour. Laboratory three hours.

106-1 Reprographics. Upon successful completion of this course, students, given a particular reproduction job, will determine the most appropriate reproduction process by considering pertinent factors. They will then perform the necessary operations to reproduce the copies by using the duplicator, mimeograph, offset, and a variety of copiers. Lecture/laboratory two hours.

107-2 Filing and Records Management. Upon successful completion of this course, the student will apply filing rules to alphabetic, subject, numeric, and geographic methods; determine supplies for various filing systems; and perform filing techniques and demonstrate an understanding of concepts necessary for the establishment, maintenance, revision of a filing system, including micrographics. Lecture/Learning Center three hours.

109-3 Calculating Numerical Information. Upon successful completion of this course, the student will demonstrate skill in calculating numerical information with and without the use of machines such as the ten-key calculator, electronic calculators, and use of computer services, and perform necessary operations required in working with decimals, fractions, percentages, basic statistics, metrics, and graphic displays of numerical information. Lecture/Learning Center four hours.

140-3 Word Processing Concepts. Upon successful completion of this course, the student will be able to discuss current office technological trends, list and explain the document processing cycle, identify the elements of a word processing center, and demonstrate a basic knowledge of word processing terminology. The course is designed to introduce the student to word processing concepts and is not a hands-on application course. Lecture three hours.

180-1 Introduction to Court Reporting. Upon successful completion of this course, the student will know the types of reporters and their duties, be aware of job availability and career opportunities, understand the court reporters code of ethics, know the role of the reporter in the courtroom, and be familiar with state and national professional associations. Lecture one hour. Prerequisite: 101a.

182-3 Legal Terminology and Documents. Upon successful completion of this course, the student will be able to recognize, define, spell, and use legal terminology, including Latin words and phrases. The student will also be able to understand and type legal correspondence, client and court documents, and use a variety of reference books and guides. Lecture three hours. Prerequisite: 101b or concurrent enrollment in 101b.

183-7.5 (2.5, 2.5, 2.5) Machine Shorthand I, II, and III. Upon successful completion of these courses, the student will (a) be able to write with the machine by touch words by sound according to the computer-compatible shorthand theory; write shorthand abbreviations, derivatives, brief forms, and punctuation symbols; read printed text notes and student-made machine notes; take dictation of new material for five minutes at 60 to 80 words per minute with a 95 percent accurate transcript; (b) demonstrate machine shorthand skill by taking dictation of new material for five minutes at 80 to 100 words per minute, reading dictated notes, and writing an expanded vocabulary using correct theory, and accurate transcription of notes; (c) demonstrate machine shorthand skill by taking dictation of new material for five minutes at 100 to 120 words per minute, and rapid and accurate transcription of notes. Lecture five hours; Learning Center five hours. Prerequisite: must be taken in sequence; 101b, c, d or concurrent enrollment.

184-3.5 Pretranscription for Court Reporting. Upon successful completion of this course, the student will properly operate a transcription/dictation unit. Emphasis will be placed on the legal/medical aspect of vocabulary, spelling, capitalizing, numbers, word division, punctuation, grammar, and proofreading for court reporters. The student will dictate court proceedings and other communications from shorthand notes and will produce transcripts with speed and accuracy. Prerequisite: concurrent enrollment in 101c and 183c.

185-2.5 Introduction to Legal Testimony. Upon successful completion of this course, students should be able to take jury charge, congressional record and literary materials at speeds of 110-130 words a minute. Students will be familiar with two-voice dictation and will be able to produce typewritten transcripts. Lecture/laboratory five hours, plus Learning Center hours to be arranged. Prerequisite: 103c.

201-2 to 8 Cooperative Secretarial Experience. Upon successful completion of this course, the student will apply knowledges and skills learned in classroom situations to on-the-job situations in an office closely related to the student's specialty; apply knowledges and skills learned in classroom situations to courtroom situations. Minimum of one hour conference and twenty hours work experience per week.

205-2 Office Management and Supervision. Upon successful completion of this course students will demonstrate competency in the planning, organizing, and controlling of a business office. They will identify proper managerial skills, managerial roles, office services, physical facilities, and records management. Lecture two hours.

207-2 Personality Development. Upon successful completion of this course, the student will be able to demonstrate knowledges learned concerning personal hygiene, personality, poise and charm, clothing, and personal ethics. Lecture 2 hours.

208-3 Applied Law for Technical Careers. An individualized program of instruction design to

acquaint students enrolled in the various technical programs of the School of Technical Careers with the fundamental legal practices and procedures common to their area of specialization. The student will identify, define, and describe contracts, agency and employment, commercial paper, security devices, and insurance procedures related to the student's technical field. Lecture 3 hours.

209-3 Applied Law for Technical Careers II. An individualized program of instruction designed to acquaint students enrolled in the various technical programs of the School of Technical Careers with the fundamental legal practices and procedures common to their area of specialization. Students will identify, define, and describe security devices and insurance, partnership, corporations, real property and environment, personal property and bailments, and commercial paper. Prerequisite: 208 recommended.

211-3 Health Insurance Processing. Upon successful completion of this course, students will have an understanding of various common health insurance forms and the procedures involved in processing them in a medical office. Efficient processing will be stressed at the end of the course. Lecture one hour, laboratory three hours. Prerequisite: 101b.

212-6 (3, 3) Medical Terminology, Dictation, Transcription. Upon successful completion of this course, the student will (a) demonstrate the use of medical terminology, including prefixes and suffixes; spell and define medical terms and other special terminology used in medical communications/documents; (b) increase speed and accuracy in the use of medical terminology, including special terms, short cuts, and abbreviations in the production of medical communications/documents from shorthand notes or recorded dictation. Lecture/Learning Center four hours. Prerequisite: 101c, 104 or 102c.

213-3 Medical Administrative Support Procedures. Upon successful completion of this course, the student will be able to perform necessary duties required of information support personnel in a hospital, clinic, doctor's office or other health-related organization. Lecture two hours, laboratory two hours.

220-4 Legal Document Production. Upon successful completion of this course, the student will be able to produce a variety of legal documents, papers, and office communications typing from handwritten copy, prepared forms, or using transcription equipment. Emphasis will be on decision making and use of modern word processing equipment and procedures. Lecture two hours, laboratory four hours. Prerequisite: 101d and 104. Concurrent enrollment in 222a recommended.

222-6 (3, 3) Legal Terminology, Dictation, Transcription. Upon successful completion of this course, the student should (a) know the spelling, punctuation, meaning and applicable shorthand outlines and be able to take dictation if applicable and transcribe from notes or recorded dictation rapidly and accurately; (b) know specialized terminology related to the legal field, be able to take dictation if applicable and transcribe at faster speeds with accuracy, and be able to handle office-style situations effectively. Lecture/Learning Center five hours. Must be taken in sequence. Prerequisite: 101c, 102d, or 104.

223-3 Legal Administrative Support Procedures. Upon successful completion of this course, the student will perform necessary duties required of information support personnel in a law office or other law related organization. Lecture two hours, laboratory two hours.

230-4 Administrative Document Production. Upon successful completion of this course, the student will produce various communications using electronic keyboards, dictation/transcription equipment, and various modern procedures with speed and accuracy. Lecture two hours, laboratory three hours. Learning Center hours to be arranged.

232-3 Administrative Dictation and Transcription. Upon successful completion of this course the student will take administrative dictation at speeds of 100 to 120 words a minute, transcribe administrative/specialty communications with emphasis on mailability, and build transcription speeds ranging from 20 to 30 words per minute. Lecture/Learning Center four hours. Prerequisite: 101d and 102d.

233-3 Administrative Support Procedures. Upon successful completion of this course, students will be able to perform efficiently administrative support duties including handling mail, telephone situations, composing communications, arranging for travel and conferences, performing basic information processing operations, and carrying out supervisory responsibilities. Emphasis will be on human relations, time management, and organization and planning of work. Lecture three hours. Prerequisite: 101b.

240-3 Word Processing Applications I. Upon successful completion of this course, the student will be able to operate basic text editing equipment, format text, store and retrieve text, correct and revise documents, perform selected automatic functions, and produce a printed document. This is the first hands-on application course. Lecture two hours. Laboratory two hours. Prerequisite: 101c, 104.

241-3 Word Processing Applications II. Upon successful completion of this course, the student will be able to set up, enter, and produce mass mailings with form letters; produce tables and other tabular text using word processing devices; construct and rearrange large documents using word processing equipment; and use advanced text editing techniques. Lecture two hours. Laboratory two hours. Prerequisite: 240.

242-3 Word Processing Operations and Control. Upon successful completion of this course, the student will be able to discuss the role of the word processing supervisor, describe the

steps involved in conducting a word processing study, explain the procedures for analyzing and implementing a word processing system, and identifying how word processing ties in to larger systems. The course will prepare students to become supervisors of word processing operations and provide them with a knowledge of the responsibilities of a manager of word processing operations. Lecture three hours. Prerequisite: 140.

243-3 Insurance Office Procedures. Upon successful completion of this course, the student will perform office duties peculiar to an insurance office as well as procedures used in all types of offices. Lecture three hours.

244-1 Machine Transcription (Insurance). Upon successful completion of this course, the student will be able to transcribe from a transcribing unit most all types of insurance office communications at a rate of speed commensurate to the student's straight copy speed. Students will be required to make decisions in a variety of instances. Lecture/laboratory two hours.

260-3 Introduction to Text Processing. (Same as Electronic Data Processing 260.) Each student will learn the basic operation and function of representative word processing machines and terminals. The lab time will be spent in the development of speed and accuracy in the typing of textual materials. Lecture two hours. Laboratory two hours. Prerequisite: typing skill.

285-3 Legal Testimony I. Upon successful completion of this course, students will be able to take jury charge, legal opinion, and testimony materials at 130 to 180 words per minute. Reporting shortcuts and phrases are emphasized. Oral readbacks are stressed. Lecture/laboratory five hours. Learning Center hours to be scheduled. Prerequisite: 185.

286-3 Literary/Medical I. Upon successful completion of this course, students should be able to take literary material at speeds of 130 to 180 words per minute. Students should know medical terminology including prefixes, suffixes, and roots of medical words commonly found in depositions and court transcripts. Lecture/laboratory five hours. Learning Center hours to be scheduled. Prerequisite: 141 and 185.

287-3 Legal Testimony II. Upon successful completion of this course, students should be able to take jury charge, legal opinion, and testimony materials at speeds of 160 to 210 words per minute. Three- and four-voice dictation is introduced and type transcripts are produced. Lecture/laboratory five hours. Learning Center hours to be scheduled. Prerequisite: 285.

288-3 Literary/Medical II. Upon completion of this course, students should be able to take literary materials at speeds of 160 to 210 words per minute. Medical terminology will be studied. Lecture/laboratory five hours. Learning Center hours to be scheduled. Prerequisite: 286.

313-5 Advanced Machine Shorthand. Upon completion of this course, the student should have developed a take speed of 160 words a minute with an accuracy tolerance of five percent on literary material; reviewed computer compatible abbreviations and reporting phrases; increased transcription speed from 40 to 50 words a minute; reviewed rules of punctuation; reviewed legal and medical vocabulary; developed a technical vocabulary; and been introduced to the ethics and responsibilities of the reporting profession. Lecture three hours. Laboratory three hours. Prerequisites: 222a and 212a.

316-1 Legal Ethics. Upon completion of this course, the student should understand the canons of professional ethics as listed in *Cochran's Law Lexicon* and the NSRA Code of Ethics; have observed the etiquette and duties of court reporters by attending court sessions; have taken testimony in court and transcribed that copy in proper, final form; have taken jury charges and legal dictation in class at speeds of 100 to 180 words a minute and transcribed that copy with a minimum of 95 percent accuracy; have taken depositions and transcribed them in state-approved form. Lecture/laboratory two hours.

385-3 Legal Testimony III. Upon successful completion of this course, students should be able to take jury charge and legal opinion materials at speeds of 190 to 220 words per minute and testimony materials at speeds of 190 to 240 words per minute. Three- and four-voice dictation will be further developed and typed transcription of multiple voice material will be required. Lecture/laboratory five hours. Learning Center hours to be arranged. Prerequisite: 287.

386-3 Literary/Medical III. Upon successful completion of this course, students should be able to take literary materials at up to 210 words per minute. Medical terminology is reviewed and further developed. Typewritten transcription is stressed. Lecture/laboratory five hours. Learning Center hours to be scheduled. Prerequisite: 288.

387-3 to 12 Court Reporting Practicum. Upon successful completion of this course, students should have spent a minimum of 48 hours in assigned general reporting offices and official reporting locations as observers and in on-the-job training under the guidance of experienced reporters. Lecture one hour. Prerequisites: 200 words a minute.

Social Studies (Major)

(SEE CURRICULUM, INSTRUCTION, AND MEDIA)

Social Work (Major, Courses)

The social work program offers a professional social work curriculum designed to prepare students for careers in the social services. The program focuses on direct services and leads to a Bachelor of Science degree with a major in social work.

The curriculum provides an interdisciplinary approach to understanding the relationship of people with their social and community environments. Through examination of the social welfare system, students are helped to identify those factors which limit social functioning and individual growth. The social work profession is committed to maximizing opportunities for minority and disadvantaged populations and this commitment is reflected throughout the social work program.

A social work methods sequence seeks to provide basic social work skills for prevention and treatment of a variety of human problems. Course content integrates human behavior with the social environment and focuses on ethnic and minority issues, service delivery issues in rural areas, and the effects of discrimination and poverty on populations-at-risk, children, and the aged. Experiential learning (simulation, role playing, volunteer experience) is an integral part of the curriculum.

A unique aspect of the social work program is an intensive field practicum. The practicum provides an opportunity to integrate theoretical knowledge and helping skills learned in the classroom with the "real world" settings of southern Illinois social service agencies. A concurrent weekly seminar supports this integration of theory and practice.

The field practicum may be taken over two semesters of the senior year, half-time, or in one semester for a full 40 hour week. Block field placements do not begin during the summer. Approved practicum sites include children, youth, and family service agencies, county and state mental health agencies, gerontological service programs, medical facilities, and community planning and development agencies.

The undergraduate social work program is accredited by the Council on Social Work Education, the national accrediting agency. The degree may be recognized for advanced standing by graduate schools of social work offering advanced standing programs.

Academic Requirements. Students must be in good standing in order to be considered for acceptance into the program.

Advisement. A student planning to major in social work should consult with the social work academic adviser of the College of Human Resources or a social work faculty member as early as possible in order to plan an orderly and coherent program. Faculty members are available for advice and career guidance information.

Bachelor of Science Degree, College of Human Resources

<i>General Studies Requirements.</i>	45
Must include GSB 202 and 203 and GSD 112.	
<i>Requirements for Major in Social Work</i>	56-58
Foundations of Social Work: Social Work 375, 411, 416, 421	12
Social Work Methods: Social Work 380, 383, 401, 402, 441, 442, 443, 444	29
Social Work Policy, Practice and Issues: One course selected from Social Work 450, 461, 463, 466	1-3
Community Development 403	3
Health Education 311	3

Social Work or Black American Studies 391.....	2
At least two 300 or 400-level courses selected from two of the following departments: anthropology, economics, history, political science, psychology, sociology	6
Electives	17-19
Total	120

Courses

289-3 Field Service Seminar. (Same as Community Development 289.) This seminar is to be taken concurrently with 295 or Community Development 295. Prerequisite: consent of instructor.

295-1 to 6 Field Service Practicum in Southern Illinois. (Same as Community Development 295.) This course is designed for freshmen and sophomores who are volunteering service to community, social service, or health service agencies in southern Illinois. Credit based upon time spent in direct service. Approval of agency required for registration.

375-3 Social Welfare as a Social Institution. Interdependence of social, cultural, political, and economic factors in the history, theory, and practice of social welfare, with special reference to development of the social work profession in response to social problems. This class may require field activity.

380-3 Introduction to Social Work Practice. This course serves as an introduction to social work practice. It provides a conceptual framework for problem solving and change with individuals, families, groups, and communities.

383-4 Interviewing and Interpersonal Helping Skills. This is an introductory course in interpersonal skills in the social services. Interviewing, history taking, and goal setting are emphasized.

391-2 Social Services and Minority Groups. (Same as Black American Studies 391.) Exploration of the needs, experiences, and attitudes of minority groups pertaining to social welfare services. Implications for policy and programs in such areas of service as physical and mental health, child welfare, family planning, income maintenance, recreation, education, training and employment.

396-1 to 3 Readings in Social Welfare. Varying topics not ordinarily covered in depth in regular courses and of specific interest to advanced students. Prerequisite: consent of instructor.

401-4 Social Work Methods: Individuals and Families. An examination of problem solving interventions and environmental modifications skills for use with individuals and families. Prerequisite: 375, 380, 383, Health Education 311.

402-3 Social Work Methods: Group Theory and Practice. This course examines social work group process with clinical and non-clinical groups. Leadership, roles, goal setting and interventive strategies are addressed. Not for graduate credit. Prerequisite: 375, 380, 383, Health Education 311.

403-3 Community Organization. (See Community Development 403.)

411-3 Methods of Social Research. Examines the principles, concepts and methods of scientific investigation in terms of its application to social work research and practice. Not for graduate credit. Prerequisite: 375, 380, 383, Health Education 311 and GSD 112 or its equivalent.

416-3 Human Behavior and the Social Environment. A social systems approach to the study of human development and behavior. Examination of environmental forces impinging on the individual and implications for social work practice. Not for graduate credit for social work majors. Prerequisite: 375, 380, and Health Education 311.

421-3 Social Welfare Policy. This course provides an in depth examination of social welfare structure, functions, policy, and programs, as well as strategies for shaping and changing policy. Prerequisite: 401, 402, 416, and Health Education 311.

441-6 Social Work in Selected Agencies. At least 20 hours per week of supervised experience in an approved social work agency with concurrent weekly seminar. Not for graduate credit. Field work practicums begin only in fall and spring semester. Prerequisite: senior standing, 375, 380, 383, 401, 402, 416, and a 2.5 grade point average in departmental prerequisites. Must be taken concurrently with 443. Mandatory Pass/Fail.

442-6 Advanced Field Practicum. Supervised field work experience in an approved social service agency with concurrent weekly seminar. At least 20 hours per week. Not for graduate credit. Field work practicums begin only in fall and spring semester. Prerequisite: senior standing, 375, 380, 383, 401, 402, 416, and a 2.5 grade point average in departmental prerequisites. Must be taken concurrently with 444. Mandatory Pass/Fail.

443-1.5 Field Practicum Seminar. The seminar assists the student who is in field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social welfare theory. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared

field work experiences: practice issues related to social work principles, ethics and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 441.

444-1.5 Advanced Field Practicum Seminar. The seminar assists the student who is in field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social welfare theory. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared field work experiences: practice issues related to social work principles, ethics, and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 442.

450-1 to 6 (1 per topic) Seminar in Special Issues for Social Welfare. (a) Practice. (b) Policy and planning. (c) Public welfare services. Topic will be selected from these three areas. Limited to no more than three credit hours per semester. May be repeated as topic varies up to six semester hours. Prerequisite: junior standing and consent of instructor.

461-3 Child and Family Services. Problems of child-parent relationships and difficulties in social functioning of children and adolescents. Adoptions, foster home and institutional placements, protective services. Not for graduate credit. Prerequisite: consent of instructor. Elective Pass/Fail.

463-2 Social Work with the Aged. Basic concepts of social work methods applied to the older adult group. Characteristics of the aged group, its needs and potentials. Social trends and institutions involved in services to the aged. Prerequisite: consent of instructor.

466-3 Public Policies and Programs for the Aged. An introduction to public policy, program and planning for the aged. A framework is utilized for analyzing policy issues, programs and research in such areas as income maintenance, long term care, transportation, leisure time, housing and social services in order to aid present and future practitioners who work with the aged.

496-1 to 6 Independent Research in Social Welfare. Provides opportunity for students to conduct independent research with the guidance of a faculty member. Topics of research are identified by the student and faculty member. Prerequisite: consent of instructor.

Sociology (Department, Major Courses)

Sociology is the science of society. It explains how human groups, institutions, and social movements shape our lives. Sociology has always been a discipline which prepares students to think and act critically in the practical details of life. Sociology students, therefore, study such topics as sex roles, the city, juvenile delinquency, marriage and the family, criminology, social change, complex organizations, and political economy.

Training in sociology is basic both to creative living and to such practical tasks as the development and effective working of businesses, families, community service agencies, political movements and parties, churches, social clubs, government, industry, and schools.

Those with degrees in sociology find meaningful and rewarding employment as journalists, consultants, social change agents, advisers to government, politicians, clergy, educators, diplomats, and other occupations. Moreover, an undergraduate major in sociology is excellent preparation for those anticipating graduate school in law, computer science, social welfare, the ministry, community development, teaching, public administration, business administration, journalism, and many of the technological and scientific fields. In addition, many students have enjoyed the benefits of double majors or major-minor combinations between sociology and one of these related fields.

The Department of Sociology offers two alternative plans of study for completion of its major. General sociology is for those seeking a broad academic background in sociology and is usually chosen either by those who want a general liberal arts education in the social sciences or those anticipating graduate study in one of the social sciences. Applied sociology combines general studies in sociology with individually planned programs built around applied courses, including field work experience. The applied sociology plan is primarily for those who seek careers in those governmental, business, or community service occupations for which graduate school training is either unnecessary or taken as an option somewhat later in one's career.

The major requires 8 hours for the sociology core requirements which are 301 and 312. Also required are four hours of senior year experience in 497 which will involve supervised study for those interested in general sociology or 498 which will involve supervised field experience for those interested in applied sociology. The remaining 20 hours required for the major must include at least eight hours at the 400 level and may be elected from regularly scheduled departmental courses. Transfer students must earn at least 20 hours of sociology credit at Southern Illinois University at Carbondale. Departmental advisement is offered and encouraged, especially for those interested in applied sociology.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
<i>Supplementary College Requirements</i> (See page 72.).....	(4) + 8-14
<i>Requirements for Major in Sociology</i>	32
Sociology Core Requirements.....	8
Sociology 301.....	4
Sociology 312.....	4
Senior Year Work.....	4
Sociology 497 or 498.....	
Sociology Electives.....	20
At least eight hours must be earned in 400-level courses.	
<i>Electives</i>	29-35
<i>Total</i>	120

Minor

A minor in sociology consists of a minimum of 20 hours of which four must be Sociology 301. Students completing a minor in sociology to meet part of the requirements for a teaching certificate in the State of Illinois must also complete these requirements.

Honors Program

The department offers a honors program for academically outstanding sociology majors. Qualifications for acceptance into this program are: (1) an overall grade point average of at least 3.00; (2) completion of 8 hours in sociology courses with a grade point average of at least 3.25. Three honors courses are offered at the junior and senior class levels. For details, qualified students interested in this program should consult the director of undergraduate studies in the Department of Sociology.

Courses

- 101-3 The New Student in the University.** Investigates the purposes of higher education, increases knowledge and utilization of the university and the learning process. Only for first semester students at this university. Special sections for junior college transfer students and others. Does not apply to hours in sociology major. Mandatory Pass/Fail.
- 301-4 Principles of Sociology.** This course is intended to acquaint sociology majors and prospective majors with basic principles in a broad sampling of substantive areas of contemporary sociology as background for more advanced courses. Elective Pass/Fail.
- 302-4 Contemporary Social Problems.** Review of the basic sociological perspectives used in the study of social problems; discussion and analyses of selected contemporary social problems; assessment of alternative courses of action for the solution of problems. Elective Pass/Fail.
- 308-4 Statistics for Social Science.** Methods and application of statistics in the social sciences. Measures to describe distribution, measures of relationship, statistical inference. Prerequisite: 301 or six hours of GSB courses. Elective Pass/Fail.
- 312-4 Elements of Sociological Research.** The student is introduced to a variety of research methods in the social sciences including use of the library, techniques of observation, and elementary steps in quantitative measurement and analysis. Prerequisite: 301 or six hours of GSB courses. Elective Pass/Fail.
- 316-3 Political Socialization.** (See Political Science 316.)

- 332-4 Comparative Social Organization.** Examination of social organization and institutions in pre-industrial and industrial societies. Prerequisite: 301 or six hours of GSB courses. Elective Pass/Fail.
- 335-4 Urban Sociology.** The structure, culture, and problems of modern cities, with emphasis on American cities; the impact of culture and structure on modern urban life; problems of community, social identity, mass culture, and social control; implications for urban planning. Prerequisite: 301 or six hours of GSB courses. Elective Pass/Fail.
- 340-4 Family.** The family in historic and contemporary society; evolution of the modern family; changes in family functions, structure, roles; and an examination of variation and change in family systems. Prerequisite: 301 or six hours of GSB courses. Elective Pass/Fail.
- 351-4 Sociology of Religion.** The origin and function of religious ideas and institutions in society, their relationship to social change and stability. Prerequisite: 301 or six hours of GSB courses. Elective Pass/Fail.
- 353-4 Social Ethics and Modern Society.** (See Religious Studies 353.)
- 371-4 Population Problems.** Characteristics and problems of population growth, composition, distribution, mortality, birth control and fertility, international and internal migration, and government policies. Prerequisite: 301 or 6 hours of GSB courses. Elective Pass/Fail.
- 372-4 Criminology.** The nature of crime; criminal statistics; causal factors; theories and procedures in prevention and treatment. Prerequisite: 301 or six hours of GSB courses. Elective Pass/Fail.
- 374-4 Sociology of Education.** Methods, principles, and data of sociology applied to the educational situation; relation of education to other institutions and groups. Prerequisite: consent of instructor or 301 or six hours of GSB courses. Elective Pass/Fail.
- 385-4 Energy and Society.** Analysis of the development of human social organization accompanied by increasing control of power, technology, and energy resources. Review of changes in social institutions, social processes, and population distributions. Aspects of social control of energy and technology. Prerequisite: consent of instructor or 301 or six hours of GSB courses. Elective Pass/Fail.
- 396-1 to 3 Readings in Sociology.** Prerequisite: 301 and consent of department and instructor. Elective Pass/Fail.
- 396H-1 to 3 Honors Readings in Sociology.** Topics selected jointly by student and instructor which ordinarily are not covered in depth in regular course offerings. Prerequisite: 301 and consent of department and instructor. Elective Pass/Fail.
- 397H-3 Honors Seminar in Sociology.** Varying sociological topics studied in depth and breadth. Maximum opportunity for student participation in the exploration of the subject. Prerequisite: 301 and consent of department and instructor. Elective Pass/Fail.
- 406-4 Social Change.** Theories and problems of social change; their application, with emphasis on the modern industrial period. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.
- 413-3 European Rural Society, 400-1100 A.D.** (Same as History 413.) Monks, priests, peasants, barons, and kings: an historical sociology of the ecclesiastical and feudal regimes which replaced classical civilization after the fall of the Roman Empire in the West. Elective Pass/Fail.
- 414-3 European Urban Society, 1000-1500 A.D.** (Same as History 414.) Merchants, bankers, craftsmen, lawyers, and bureaucrats: a sociological and economic analysis of the origins and development of early European urban institutions. Elective Pass/Fail.
- 415-3 Logic of the Social Sciences.** (See Philosophy 415.)
- 424-4 Social Movements and Collective Behavior.** A sociological analysis of the behavior of collectivities in uninstitutionalized settings; crowds, masses, publics and social movements will be examined with relation to their social and cultural backgrounds, forms of expression and organization, and their functions in society. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.
- 426-4 Social Factors in Personality and Adjustment.** Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches — symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.
- 435-4 Social Stratification.** A comparative study of social class systems, with emphasis on the American system. Relationships of class position to behavior in family, religion, politics, etc. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.
- 437-4 Sociology of Rural Development.** Rural development and rural social problems in the United States and other countries. Concepts of rural and urban, developed and under-developed, characteristics of rural populations and institutions; rural development analyzed functionally and historically. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.
- 450-4 Social Thought.** Traces the historical development of sociology from its beginnings in the Enlightenment to the classical expositions of the early 20th Century. Prerequisite: 301 or consent of instructor.
- 451-4 Sociology of Language and Signs.** (Same as Speech Communication 446.) Introduction to sociological semiotics with reference to such figures as Eco, Foucault, Derrida, Baudrillard,

Saussure, Habermas, the ethnomethodologists. Emphasis on the place of language and signs in sociological explanation.

454-4 Sociology of Science. Emphasis on the origins and growth of science in historical perspective, reciprocal relations between science and society in the 20th Century, science as a social system, differentiation within and relations between disciplines, and implications of the social organization of scientific research and funding. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

460-4 Sociology of Medicine. Examination of the sociological factors involved in health and illness, the role of medicine in society, the organization of medical care and health institutions in the United States, and the prospects for sociological research in this area. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

465-3 Sociology of Aging. The adult life cycle from a sociological perspective, with emphasis on the later stages of adulthood. Special topics on aging include demographic aspects, family interaction, ethnicity, and cross-cultural trends.

471-4 Introduction to Social Demography. Survey of concepts, theories, and techniques of population analysis; contemporary trends and patterns in composition, growth, fertility, mortality, and migration. Emphasis is on relationship between population and social, economic, and political factors. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

472-3 The American Correctional System. (See Administration of Justice 472.)

473-4 Juvenile Delinquency. (Same as Administration of Justice 473.) Nature of sociological theories of delinquency; analytical skills in studying the delinquent offenders; systematic assessment of efforts at prevention, control, and rehabilitation in light of theoretical perspectives. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

475-4 Political Sociology. (Same as Political Science 419.) An examination of the nature and function of power in social systems at both the macro- and micro-sociological levels of analysis, the social bases of power and politics; and various formal and informal power structures; the chief focus will be on American society. Prerequisite: 301 or consent of instructor. Elective Pass/Fail.

497-4 Senior Seminar. Contemporary issues in sociology and the analysis of these issues. Prerequisite: senior standing with 20 hours in sociology (including 301), or consent of instructor. Elective Pass/Fail.

498-1 to 4 Independent Research. With a faculty member the student arranges a research topic resulting in a paper or report. Prerequisite: senior standing with 20 hours of sociology (including 301), and consent of instructor. Elective Pass/Fail.

498H-1 to 4 Honors Independent Research. Advanced research study of a problem. Not for graduate credit. Prerequisite: senior standing with 20 hours in sociology (including 301), and consent of department and honors standing. Elective Pass/Fail.

501-4 Survey of Sociological Theory.

502-4 Seminar on Theoretical Systems in Sociology.

506-4 Seminar on Contemporary Sociological Theory.

512-5 Sociological Research.

513-4 Methods of Historical Sociology.

519-4 Methodological Foundations of the Social Sciences.

521-4 Seminar in Social Psychology.

522-4 The Sociology of Small Groups.

526-8 (4, 4) Quantitative Methods of Sociology.

529-4 Sampling and Inference in Social Research.

530-2 to 12 (2 to 4 per topic) Topical Seminar in Sociology.

532-4 Urban Social Structure.

537-4 Sociology of Law.

539-4 Seminar in Complex Organization.

542-4 Seminar on the Family.

543-4 Seminar in Family Variability and Change.

551-4 Sociology of Religion.

562-4 Deviance and Disorganization.

564-4 Social Factors in Health and Illness.

566-4 Sociology of the Community.

572-4 Seminar in Criminology.

574-3 to 4 Seminar in the Sociology of Education and Science.

591-1 to 4 Individual Research — Supervised Research Projects.

596-1 to 8 Readings in Sociology.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Special Major (Major)

The special major program allows qualified undergraduate students to design their

own majors if no existing major meets their academic needs and interests but existing University resources may be used to satisfy them. Guidelines for developing a special major curriculum are available in the office of the program administrator, the dean of General Academic Programs. These require that the student:

1. obtain a faculty sponsor from a department with studies most like the major,
2. collaborate with the sponsor to propose a workable plan of study, structured coherently around a central topic, with a title that identifies the program's individualized purpose,
3. receive approval of the program proposal from the dean of General Academic Programs,
4. complete at least 28 semester hours, mainly in upper level, 300 or 400, courses and clearly attributable to the special major, after final approval,
5. meet all graduation and course hour requirements of the University and of the college and department which agree to sponsor the special major. Final recommendation for a baccalaureate degree with a special major is the prerogative of the dean of General Academic Programs, with approval of the appropriate college dean.

Special Education (Department, Major, Courses)

In the Department of Special Education, teachers are prepared to work with behaviorally disordered, mentally retarded, and learning disabled children. Students seeking the Standard Special Certificate will complete a 120 semester hour program leading to approval in one of the three handicap areas listed above. Students who wish to obtain joint certification in special education and elementary education must complete a 144 to 149 hour program.

All programs are fully approved by the Illinois State Teacher Certification Board.

As with other teacher preparation programs within the University, departmental approval must be secured for each student after the student's first semester of membership in the department.

In the Department of Special Education this approval and subsequent approvals are based not only on continued satisfactory academic performance, but acceptable professional behaviors which the faculty deem essential for competent and effective educators of exceptional children and youth.

Bachelor of Science Degree, College of Education

SPECIAL EDUCATION MAJOR — STANDARD SPECIAL CERTIFICATE WITH APPROVAL IN BEHAVIORAL DISORDERS, OR MENTAL RETARDATION, OR LEARNING DISABILITIES¹

General Studies Requirements 45

GSA: 9 hours

GSB: 9 hours including 202 and 212, 300 or 301

GSC: 12 hours including Music 101 (GSC substitution) and one literature course

GSD: GSD 101; 117 or 119; GSD 152 or 153; Mathematics 114 or equivalent to substitute for GSD 107

GSE: 4 hours including 201 and two hours of physical education activity.

Additional General Education Requirements for Certification 20

Art 348 or Vocational Education Studies 370; Music 302 or 300; Physical Education 202; Mathematics 314

Psychology 301

Guidance and Educational Psychology 412 or Psychology 431

Special Education 400

Requirements for Major in Special Education 49

Professional Education Requirements	26
Education 201, 301, 302, 303, 304c, 312, 350, 400 ¹ , 401 ¹	
Special Education Requirements	23
Special Education 411, 423, 425	7
Curriculum, Instruction, and Media 312, 315	6
Certification Area	10
The certification area requirement must include the specific courses listed and additional courses approved by the department to bring the total in the areas to at least 10 hours.	
Behavioral Disorders: 401, 417, 430	
Mentally Retarded	
Educable Mentally Retarded: 402, 406, 418, 430	
Trainable-Severely/Profoundly Handicapped: 402, 406, 421, 431	
Learning Disabilities: 404, 419, 430	
Electives	6
Psychology 305, 307 (both required in behavioral disorders);	
Special Education 410; Curriculum, Instruction, and Media 407e;	
Communications and Fine Arts 497 (if the section is taught as	
Integrated Arts for the Handicapped)	
Total	120

¹To be certified in two areas of special education, a student must take problem and characteristics courses in both areas, methods courses in both areas and eight hours of student teaching in both areas.

SPECIAL EDUCATION MAJOR — JOINT CERTIFICATION IN SPECIAL EDUCATION AND ELEMENTARY EDUCATION SPECIALIZATION

<i>General Studies Requirements</i>	45
GSA: 9 hours	
GSB: 9 hours including 202 and 212, 300 or 301	
GSC: 12 hours including Music 101 (GSC substitution) and one literature course	
GSD: GSD 101; 117 or 119; GSD 152 or 153; Mathematics 114 or equivalent to substitute for GSD 107	
GSE: 4 hours including 201 and two hours of physical education activity	
<i>Additional General Education Requirements for Certification</i>	20
Art 348 or Vocational Education Studies 370	
Music 300 or 301 or 302	
Physical Education 202	
Mathematics 314	
Psychology 301	
Guidance and Educational Psychology 412 or Psychology 431	
Special Education 400	
<i>Requirements for Major in Special Education</i>	69
Professional Education Requirements	34
Education 201, 301, 302, 303, 304c, 312, 350, 400 ¹ , 401 ¹	
Special Education Requirements	17
Special Education 411, 423, 425	7
Certification Area	10
The certification area requirement must include the specific courses listed and additional courses approved by the department to bring the total in the area to at least 10 hours.	
Behavioral Disorders: 401, 417, 430	
Mentally Retarded	
Educable Mentally Retarded: 402, 406, 418, 430	
Trainable-Severely/Profoundly Handicapped: 402, 406, 421, 431	

Learning Disabilities: 404, 419, 430

Elementary Education Requirements. 18

Curriculum, Instruction, and Media 315, 312,
423, 424, 426, 435

Electives (must bring total in general education to 78) 13

Psychology 305, 307 (both required in behavioral disorders);

Special Education 410; Curriculum, Instruction, and Media 407e;

Communications and Fine Arts 497 (if the section is taught as

Integrated Arts for the Handicapped)

Total. 147

¹Includes eight hours of student teaching for special education and eight hours of student teaching for elementary education.

Courses

400-3 Introduction to Special Education. Physical, mental, emotional, and social traits of all types of exceptional children and youth. Effects of handicaps in learning situations. Methods of differentiation and techniques for rehabilitation. Case studies, observations, and field trips may be required.

401-3 Problems and Characteristics of the Behavior Disordered Children and Youth. Diagnosis, screening, classroom management, placement considerations, goals, and the effective use of ancillary services for the emotionally disturbed and/or socially maladjusted. Emphasis on the understanding of maladaptive behavior through principles of learning and behavior. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

402-2 Problems and Characteristics of the Mentally Retarded Child. Emphasizes a developmental approach to understanding and dealing with children who have mildly and moderately reduced mental abilities. Considers historical, theoretical, and practical factors pertinent to mental retardation. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

403-3 Problems and Characteristics of the Gifted Child. Designed to help teachers in the identification of and programming for gifted and talented children. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

404-3 Problems and Characteristics of Learning Disabled Children and Youth. Behavioral, emotional, physical, and learning characteristics of children and youth with learning disabilities. Emphasis on receptive and expressive modalities for learning; theories dealing with causes and management. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.

405-3 Education of the Preschool Handicapped Child. Emphasizes classroom procedures for enhancing development in children with developmental delay. Covers organization of the curriculum, goal setting, task analysis, lesson planning, and classroom organization. Practicum with preschool handicapped children is an integral part of this course. Prerequisite: 400, concurrent enrollment, or consent of chairperson.

406-2 Characteristics of the Severely Handicapped Child. Provides the basic developmental, psychological, intellectual, and curricular background essential to students wishing to teach in this area of special education. The course requires 30 hours of lecture and 15 hours of lab with severely handicapped children. Students will be video-taped for self-critique and progress evaluation. Prerequisite: 400 or consent of department chairperson.

409-1 to 6 Cross-Cultural Studies. Seminar and/or directed independent study concerned with socio-cultural variables affecting the personality characteristics and educational needs of children who are diagnosed as mentally, emotionally, or psychically handicapped. Prerequisite: 400 or consent of instructor and department chairperson.

410-2 International Aspects of Services for the Handicapped. Focus on innovative ideas and practices in other countries in preschool programs, special education, rehabilitation, vocational training and employment, recreation, community living, organizational structures, and legislation.

411-3 Assessment in Special Education. Designed to develop competency in students in the administration, scoring and interpretation of educational tests including the integration of findings from a number of tests. A laboratory fee of \$5 is required to cover the cost of materials. No textbook is required. Prerequisite: 400; Curriculum, Instruction, and Media 312, 315; Education 304c. Prerequisite or concurrent enrollment in 401 or 402 or 404.

412-3 Assessment and Remedial Planning for the Preschool Handicapped Child. An introduction to the assessment of preschool handicapped children including the specifics of screening, tests used by the classroom teacher and observational procedures. A charge of \$5 for testing materials is required. No textbook is required. Prerequisite: 400 and 405.

414-3 Assessment and Remedial Planning for Youth in Special Education. Testing, evalua-

tion, and program development for adolescent students with special learning problems. Purchase of testing materials costing approximately \$10 is required. Prerequisite: 400 and consent of department.

417-3 Methods and Materials for Teaching Behaviorally Disordered Children and Youth. Psychoeducational procedures used in teaching the behaviorally disordered children and youth. Includes field trips, meetings with parents, and visits by resource persons from schools and agencies. Prerequisite: 411, concurrent enrollment in Education 312 and Education 400.

418-3 Methods and Materials for Teaching Educable Mentally Handicapped Children and Youth. Psychoeducational strategies used in teaching the educable mentally handicapped children and youth. Prerequisite: 411, concurrent enrollment in Education 312 and Education 400.

419-3 Methods and Materials for Teaching Learning Disabled Children and Youth. Psychoeducational strategies used in teaching children and youth with learning disabilities. Prerequisite: 411, concurrent enrollment in Education 312 and Education 400.

421-3 Methods and Materials for Teaching Pre-School or Elementary Severely Handicapped Learners. Emphasis on methods of teaching those with severe handicaps. Minimum of one video-taping session, and individualized tutoring, are required of all participants. Prerequisite: 411 or 412; concurrent enrollment in Education 312 and Education 400.

423-2 General Procedures in Special Education. Deals with methods, materials and instructional management practices common to the instruction of the handicapped. Prerequisite: 411; concurrent enrollment in Education 312.

425-2 Home-School Coordination in Special Education. Consideration of the techniques used in parent interviews, conferences, and referrals by school personnel with parents of handicapped children. Prerequisite: 400 or consent of department chairperson.

430-3 Work-Study Programs for Handicapped Adolescents to Age 21. Deals with modifications of and additions to school programs to insure that they are appropriate to the needs of the mildly handicapped adolescent. Includes detailed coverage of joint work-study programs as preparation for vocational adequacy. Prerequisite: 400 and one of 401, 402, 403, or 404.

431-2 Work-Study Programs for Severely Handicapped Adolescents to Age 21. Deals with program offerings in public school special education programs designed to prepare the severely handicapped adolescent for maximum vocational adequacy. Prerequisite: 400 and one of 401, 402, 404, or 406; concurrent enrollment in Education 312.

456-4 (2, 2) Music for Exceptional Children. (See Music 456.)

490-1 to 5 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to selected seniors. Prerequisite: 400 and consent of department chairperson. Elective Pass/Fail.

500-3 Special Education Research Problems.

502-2 Special Education Research Paper.

503-3 Educational Program Delivery for Gifted and Talented Students.

505-3 The Pre-School Handicapped Child.

511A-3 Advanced Assessment and Remedial Planning in Special Education.

511B-3 Advanced Remediation in Special Education.

512-3 Advanced Assessment and Remedial Planning for the Preschool Handicapped Child.

513-3 Organization, Administration, and Supervision in Special Education.

514-3 Simulation of Administrative Tasks in Special Education.

515-2 Itinerant and Resource Teaching in Special Education.

516-3 Advanced Assessment for Educationally Handicapped Youth in Special Education.

517-2 The Atypical Child and Social Agencies.

518-1 to 6 Workshop in Special Education.

519-3 Career Development Opportunities for Educationally Handicapped Youth.

550-3 Behavior Management of Exceptional Children and Youth.

580-3 Master's Seminar: Issues and Trends in Special Education.

582-2 Post-Master's Seminar: Remedial Models in Special Education.

583-2 Post-Master's Seminar: Program Coordination in Special Education.

584-2 Doctoral Seminar: Research in Special Education.

585-2 Doctoral Seminar: Evaluation in Special Education.

586-1 to 4 (1, 1, 1, 1) Proseminar in Special Education.

590-1 to 5 Readings in Special Education.

591-2 to 5 Independent Investigation.

594-1 to 6 Practicum in Special Education.

595-1 to 12 (1 to 6) Internship.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Speech Communication (Department, Major, Courses)

The Department of Speech Communication offers courses in the history, theory

and application of communication. Program specializations prepare majors for professional, artistic, and instructional careers in human communication. The department also sponsors cocurricular activities in debate, forensics, oral interpretation, creative drama, and public relations, all of which are open to non-majors.

To meet requirements for a major in the Department of Speech Communication, a student must demonstrate the following basic skills: the ability to deliver effective public speeches and oral performances of literature; the ability to write clear, correct English prose; the ability to communicate effectively at the interpersonal level as well as in small and large groups; and the ability to understand and apply the theory and research which are relevant to the student's program specialization.

These competencies may be demonstrated by completing any of the major programs described below and by receiving no grade lower than *C* in the courses listed in the *Requirements for Major in Speech Communication* section of the specialization selected by the student. Under certain circumstances, a student may elect to demonstrate a competency by passing a proficiency examination administered by the Department of Speech Communication.

Bachelor of Science Degree, College of Communications and Fine Arts

SPEECH COMMUNICATION MAJOR — COMMUNICATION ARTS AND STUDIES SPECIALIZATION

<i>General Studies Requirements</i>	45
Must include GSC 200, GSD 152 or 153	
<i>Requirements for Major in Speech Communication</i>	36
Speech Communication 221, 230, 261, 262, 325, 370.....	18
Electives in Speech Communication which must include at least three 400-level courses.....	18
<i>Electives</i>	39
<i>Total</i>	120

SPEECH COMMUNICATION MAJOR — ORAL INTERPRETATION SPECIALIZATION

<i>General Studies Requirements</i>	45
Must include GSC 200, GSD 152 or 153, GSE 103d (2 hours), GSB 202 strongly recommended	
<i>Requirements for Major in Speech Communication</i>	54
Speech Communication 221, 230, 261, 262, 325, 370, 390-3, 433, 471, 472, 474, 491-3	36
English literature courses.....	12
Courses to be determined in consultation with adviser	
Theater 213, 217	6
<i>Electives</i>	21
Recommended that electives be in speech communication, music, film, sociology, psychology, English, theater	
<i>Total</i>	120

SPEECH COMMUNICATION MAJOR — PUBLIC RELATIONS SPECIALIZATION

The public relations specialization is an interdisciplinary program designed with the assistance of the Public Relations Society of America.

Building upon the liberal arts and sciences required of all students in the general studies program, the curriculum provides fundamental knowledge in social science, business management, marketing, political science, and research methods, and in communication through all types of media. The broad coverage of these disciplines provides a sound preparation for careers and graduate studies in public

relations and the several areas included. Through flexibility in the choice of restricted electives, the students are able to select courses in the field of their special interests in preparing for graduate work and specific career goals.

Membership in the Raymond D. Wiley Chapter of the Public Relations Student Society of America provides opportunities for internships, field trips, job placement, involvement in on- and off-campus public relations projects, and association with professional practitioners.

The active internship program enables selected students to obtain work-study experiences under the supervision of qualified practitioners in industrial, educational, and non-profit organizations. In most cases, academic credit is earned, and the student receives a stipend to defray living expenses.

General Studies Requirements..... 45
Must include GSB 202, 212, GSD 152 or 153, Economics 214
substitutes for GSB 211

Requirements for Major in Speech Communication 71
Speech Communication 261, 280, 326, 381, 382, 480, 481..... 22
Journalism 300, 310, 311, 315 (may substitute Design 322),
and any other 3 hour course in journalism (312, 341,
or 370 are recommended) 15
Radio-Television 300m 4
Psychology 307 3
Administrative Sciences 304 3
Marketing 304, 363 6
Political Science 340 or 213 3
Restricted electives 15
Selected from speech communication, journalism, radio-televi-
sion, administrative sciences, marketing, finance, economics,
political science, psychology, sociology, English. Some recom-
mended courses are: Speech Communication 390 (may be re-
peated to a total of 3 hours), 358, 362, 451; Journalism 370, 372,
374, 391, 461, 476; English 290, 390 or other approved English
writing courses.

Internship: Speech Communication 490a-1 to 6. The internship practi-
cum in public relations is open to selected students with consent of
the instructor. Hours taken here apply against 15 hours of re-
stricted electives or other substitutions approved by the instruc-
tor.

Typing: Proficiency of 30 words per minute required.

Electives 4

Total..... 120

Bachelor of Science Degree, College of Communications and Fine Arts or College of Education

SPEECH COMMUNICATION MAJOR — COMMUNICATION EDUCATION SPECIALIZATION

General Studies Requirement 45
Must include GSB 202, 212, GSC 200, 203, GSD 152 or 153, GSE 201

Requirements for Major in Speech Communication 48
Speech Communication 221, 230, 261, 262, 325, 370, 432..... 21
Mass media courses selected from the following: Radio-Television
300m, 300p, 467; Journalism 300, Speech Communication 452 ... 6
Theater 217 and 354 or 402a 6
15 hours of special electives in Speech Communication approved by
the departmental adviser or an approved minor..... 15

<i>Professional Education Requirements (including Speech Communication 431)</i>	27
See Teacher Education Program, page 63.	
Speech Communication 230 and 390 substitute for Education 312.	
<i>Total</i>	120

Bachelor of Arts Degree, College of Liberal Arts

<i>General Studies Requirements</i>	45
Must include GSC 200 and GSD 152 or 153	
<i>Supplementary College Requirements (See page 72.)</i>	(4) + 8-14
<i>Requirements for Major in Speech Communication</i>	36
Speech Communication 221, 230, 261, 262, 325, 370	18
Speech Communication electives which must include at least three 400-level speech communication courses	18
<i>Electives</i>	25-31
<i>Total</i>	120

Minor:

A 15-hour minor in speech communication should be planned in consultation with the chairperson of the department or the undergraduate adviser. Students electing speech communication as a minor in a teacher education program must include Speech Communication 431.

Courses

Courses in speech communication are listed according to numerical order. However, the second digit in the course number indicates its locus in the speech communication curriculum, as follows:

- 00-09 Research Methods
- 10-19 Rhetoric and Criticism
- 20-29 Public Speech Communication
- 30-39 Speech Education
- 40-49 Language Behavior
- 50-59 Political Speech Communication
- 60-69 Interpersonal Speech Communication
- 70-79 Oral Interpretation
- 80-89 Organizational Speech Communication
- 90-99 Applied and Special Studies

100-3 Speech Communication Workshop. A workshop in debate, oral interpretation or public speaking for secondary school seniors interested in intensive study in one or more of these areas.

221-3 Advanced Public Speaking. The components of effective speech, with actual preparation and presentation of several types of speeches. Prerequisite: GSD 153 or consent of instructor.

230-3 Introduction to Speech Communication Theory. Introduction to speech communication theory. Examination of history and theoretical issues as a basis for understanding applied communication areas.

258-1 to 30 Work Experience. Credit given for work experience by students enrolled in the Department of Speech Communication. Such credit is granted upon approval of the undergraduate adviser.

261-3 Small Group Communication. Introduction to small group communication and the small group process. Special emphasis given to problem-solving discussion groups.

262-3 Interpersonal Communication II. Focuses on face-to-face interaction and intergroup relations by combining information about human communication and practice in communication. Utilizes the laboratory method for learning to establish and develop communicative relationship with others. Prerequisite: GSD 152 or consent of instructor.

280-3 Business and Professional Communication. A survey of communication theory per-

taining to business and professional settings. Provides practice applicable to interviews, conference briefings, and presentation techniques. Prerequisite: GSD 152 or 153.

310-2 Speech Composition. Rhetorical techniques of public address. Two major speeches prepared, with every possible refinement. Prerequisite: 221.

325-3 Argumentation and Debate. Through the study of argument, evidence, reasoning, and oral advocacy this course seeks to insure competence in the ascertainment of truth by investigation and research and the establishment of truth through proof. The ultimate rationale for the course is the discovery and support of intelligent decisions. Prerequisite: 221, or 280, or GSD 153, or consent of instructor.

326-3 Persuasion. The means of influencing individuals and groups through communication. Emphasizes the shaping of other's values, beliefs, attitudes and behavior primarily by the spoken word. Provides theoretical information about and practice in persuasive speaking, for sources and targets of persuasion.

340-3 Language and Speech: Introduction. Introduction to the language of speech, an interdisciplinary approach to the learning and use of language. The structure of speech interaction in relation to participants, situation and functions of communication. Emphasis on intercultural, linguistic, psychological, sociological and developmental perspectives on language in speech communication.

341-3 Introduction to Intercultural Communication. (Same as Linguistics 341.) Examination of the elements and structure of intercultural and transracial communication in the United States. Designed to analyze and describe the interaction between social perception and expression as manifest in verbal and nonverbal behavior. Emphasis on the functional communication of minority groups. Prerequisite: 262 or GSD 152 or consent of instructor.

358-3 Political Campaigns and Elections. (See Political Science 318.) Elective Pass/Fail.

361-3 Nonverbal Communication. Nonverbal factors that influence the communicative interaction among persons. Review research findings and conduct projects germane to nonverbal communication. Readings, discussions, and research projects. Prerequisite: 262 or consent of instructor.

362-3 Communication and Social Process. Introduction to the phenomenology of human communication and social process. Analysis and description of interpersonal communication in the development and operation of human communities. Special emphasis is given to the nature of persons, consciousness, and communication exchange in society.

370-3 Oral Interpretation II. Theory and practice in advanced interpretation techniques, with emphasis on the student as performer. Prerequisite: GSC 200 or consent of the instructor.

381-3 Public Relations Policy and Practice. Philosophy, principles, policies, and practice of public relations. Historical review of industrial, governmental, and agency PR; managerial and communicative functions; internal and external publics. Lecture, audiovisual media, and guest public relations practitioners. Prerequisite: junior standing.

382-4 Research Methods in Public Communication. An introductory survey of methods and techniques of audience analysis and public opinion research. Designed especially for public relations specialization. Instruction in the design of research tools, sample selection, interviewing, and the use of the computer for data analysis.

383-3 Interviewers and Interviewing. Planning, conducting, and analyzing interviews with emphasis on roles of interviewer and respondent in professional and organizational communication settings. Study of factors affecting accuracy, openness, and goal attainment in use of interview methods for evaluation and research. Individual and small group projects with selected aspects of interviewing. Prerequisite: 262 or 280 or consent of instructor.

390-1 to 6 Applied Communication. Supervised individual and group performance in various communication arts. Emphasis on the practical application of verbal skills. May be repeated for credit. A maximum of six hours may be counted toward a speech major; a maximum of six hours toward degree requirements. Prerequisite: consent of instructor and department adviser. Mandatory Pass/Fail.

401-3 Communication Theories and Models. An introduction to theory construction and model utilization in communication research. Critical analysis of existing communication theories in the social sciences as a basis for generating new models. Emphasis on the heuristic nature and function of the language/speech act paradigm in communication studies.

411-3 Rhetorical Criticism. Designed to develop the student's ability to criticize public discourse, including speeches, written works, and the mass media.

421-3 to 9 (3, 3, 3) Studies in Public Address. Critical studies of speakers and issues relevant to social and political movements dominant in national and international affairs. A lecture, reading, and discussion course. Students may repeat enrollment to a total of nine hours. Prerequisite: for undergraduates, 411 or consent of instructor.

430-3 Speech in Elementary Schools. Survey of normal speech development with emphasis on the elementary school years. Concept of speech as skill to basic reading, writing, and spelling. Psychological and sociological variables affecting language as it relates to school learning. Speech experiences supportive of the child's linguistic, intellectual, and social development.

431-3 Speech in Secondary School. Philosophy of speech education, and effective teaching of

speech through curricular and extra-curricular work. Prerequisite: twelve hours of speech.

432-3 Secondary School Forensic Program. Designed to evaluate and plan the proper role of forensics in the secondary school and to prepare the students for their tasks as teachers and administrators in that program. Students enrolled as majors in speech communication with a specialization in communication education must complete this course before enrolling for student teaching. Not for graduate credit. Prerequisite: 325, GSC 200.

433-3 Creative Drama for Children. Materials, techniques, and procedures for conducting sessions in informal drama with emphasis upon its contribution to the total growth and development of the child. Includes lectures, observations, student participation.

435-3 to 6 (3, 3) Topics in Creative Drama. An exploration of advanced theories and techniques for conducting sessions in informal drama. Topics vary and are announced in advance. Students may repeat enrollment in the course, since the topics change. Lecture, discussion, class projects, school visitations.

440-3 Language Behavior. Study of linguistic approaches to speech communication based on behavioral determinants such as culture, history, speech community, value orientations, social perception and expression, and the nature and function of interpersonal transaction. Prerequisite: 340 or consent of instructor.

441-3 Intercultural Communication. Application of semiotic and cultural theories to language behavior. Emphasis on speech communication as an approach to the study of intercultural communication. Prerequisite: 320 or consent of instructor.

442-3 Psychology of Human Communication. Nature, development, and functions of verbal and nonverbal behavior; application of psychological theories and research to the communication process in individuals and groups. Emphasis on the systemic nature of communicative behavior.

443-3 General Semantics. Formulations from the works of Alfred Korzybski and from neo-Korzybskian interpreters are presented. General semantics is discussed as an interdisciplinary approach to knowledge. Relationships are made to contemporary problems in human affairs.

444-3 Language of Young Children. For teachers of young children and students of language. Theory of the development of language with attention to maturational and environmental correlates. Study of children's spoken language encoding and decoding behavior in relation to development of secondary skills reading and writing and to general cognitive development.

446-4 Sociology of Language and Signs. (See Sociology 451.)

451-3 Political Communications. (Same as Political Science 418.) A critical review of theory and research which relate to the influence of communication variables on political values, attitudes, and behavior. Prerequisite: 358 or consent of instructor.

452-3 Interpersonal Communication and the Mass Media. A review, synthesis, and analysis of communication theory and research which deals with the process, interactive nature of interpersonal and mass channels of communication. Prerequisite: 401 or consent of instructor.

460-3 Small Group Communication: Theory and Research. A critical examination of small group theory and research in speech communication. Emphasis is given to the development of principles of effective communication and decision-making in the small, task-oriented groups. Prerequisite: 261 or consent of instructor.

461-3 Laboratory in Interpersonal Communication I. Interpersonal communication is studied as human encounter. The philosophy and theoretical bases of existential phenomenological approaches to human communication are discussed. Projects are evolved by small groups that contribute to the understanding of human communication.

462-3 Laboratory in Interpersonal Communication II. Various theories of social and cultural change are explored. The role of interpersonal communication in the development of human consciousness is explicated. Projects are evolved by small groups that examine values and priorities of human nature and cultural nature.

465-3 Philosophy of Language. (See Philosophy 425.)

471-3 Prose Fiction in Performance. Study of prose fiction through analysis and individual performance. Includes scripting techniques for chamber theater. Prerequisite: 370 or consent of instructor.

472-3 Poetry in Performance. The study of poetic form through analysis and performance. Prerequisite: 370, GSC 200 or consent of instructor.

474-3 Readers Theatre. A study of the theory and practice of Interpreters Theatre, with special emphasis on adapting and compiling scripts for group performance in Readers Theatre. Prerequisite: 370 or consent of instructor.

475-3 Interpreters Theatre Production. Theory and practice in presentational staging of prose, poetry, and drama. Includes directing and performance experience in Readers Theatre and Chamber Theatre. Prerequisite: 471 or 474 or consent of instructor.

480-3 Dynamics of Organizational Communication. Introduction to interrelationships of communicative behaviors and attitudes with organizational policies, structures, outcomes. Uses case studies and role-plays to teach principles. Individual research into selected aspects of organizational communication. Prerequisite: 280, 442, or consent of instructor.

481-3 Public Relations in Cases and Campaigns. Advanced course in selected case studies provided by the Public Relations Society of America and other sources. Student groups design

actual or simulated public relations campaigns through the four steps of research, planning, communications, and evaluation. Prerequisite: 381 and 382.

483-3 Studies in Organizational Communication. Study of communication systems and behaviors within organizations. Consideration of relevance of communication to management operations, employee morale, networks, superior-subordinate relations, production, and organizational climates. Individual research into selected aspects of organizational communication. Prerequisite: 480 or consent of instructor.

490-1 to 6 Communication Practicum. A supervised experience using communication skills in a professional or career setting. Emphasis on the development of applied performance skills in the following areas: (a) Public relations. Mandatory Pass/Fail. (b) Communication studies. Elective Pass/Fail. (c) Interpersonal communication. Elective Pass/Fail. (d) Oral interpretation of literature. Mandatory Pass/Fail. (e) Forensic activities. Elective Pass/Fail. (f) Creative drama. Mandatory Pass/Fail. (g) Political communication. Mandatory Pass/Fail. (h) Organizational communication. Mandatory Pass/Fail. (i) Language behavior. Mandatory Pass/Fail. (j) Instructional communication. Mandatory Pass/Fail. May be repeated for credit. Undergraduates are limited to a total of six hours and graduate students to a total of three hours to be counted toward degree requirements. Prerequisite: consent of instructor and departmental advisor.

491-1 to 3 Independent Study in Communication. Readings, creative projects, or writing projects focusing on a theoretical study of communication. The independent study should normally be completed in one semester under the tutorial supervision of a faculty sponsor. Not for graduate credit. Prerequisite: twelve hours of speech, consent of instructor and departmental adviser.

492-2 to 8 Workshop in Oral Interpretation. Summer offering concentrating in specialized areas of oral interpretation.

493-3 to 9 (3, 3, 3) Special Topics in Communication. An exploration of selected current topics in communication arts and studies. Topics vary and are announced in advance; both students and faculty suggest ideas. Students may repeat enrollment in the course, as the topic varies.

501-3 Introduction to Speech Communication Research.

502-3 Seminar: Quantitative Communication Research.

503-3 Seminar: Phenomenological Communication Research.

510-3 to 6 (3, 3) Seminar: Rhetoric and Communication.

526-3 Seminar: Studies in Persuasion.

531-3 Seminar: Speech Education.

539-3 Speech Communication at University Level.

540-3 Seminar: Language, Cultural and Semiology.

545-3 Seminar: Semiology and Semiotic Communication.

561-3 to 6 (3, 3) Studies in Small Group Communication.

562-3 Philosophy of Human Communication.

563-3 Studies in Interpersonal Communication.

571-3 Theoretical Perspectives in Interpretation.

572-3 Critical Perspectives in Interpretation.

574-3 to 6 (3, 3) Studies in Interpretation.

580-3 to 9 Issues in Organizational Communication and Public Relations.

593-1 to 3 Research Problems in Communications.

595-1 to 3 Research Report.

598-0 Proseminar in Human Communication.

599-1 to 6 Thesis.

600-1 to 36 (1 to 16 per semester) Dissertation.

601-1 to 12 per semester Continuing Research.

Speech Pathology and Audiology

(SEE COMMUNICATION DISORDERS AND SCIENCES)

Technical Careers (School, Program, Courses)

The Bachelor of Science degree in the School of Technical Careers is specifically designed for the student who has entered an educational or career path for which there is no traditional baccalaureate program. It accommodates students with prior educational experience by allowing full transfer of credit. Those who wish to turn military training into viable civilian credentials and those with extensive occupational experience who wish to upgrade their educational status are accom-

modated. Provision is made to recognize many forms of previous educational and occupational experience for credit toward the degree. The program is designed to build upon a person's education and work experience through selected career related and general education course work at the baccalaureate level.

The baccalaureate program of study may be individualized or an approved curriculum segment designed to meet the needs of a particular group of students with similar curricula needs. The program of study is formalized in a learning contract. Once admitted, students are expected to maintain close contact with their program adviser.

To complete program requirements students with approved learning contracts must:

1. Complete the requirements in the learning contract.
2. Be enrolled full-time in the program for at least two semesters.
3. Have at least six hours of credit for work experience.

Students must also fulfill all University requirements including General Studies, hour requirements, residence requirements and grade point average requirements. The capstone program is available to qualified majors in the baccalaureate program of the School of Technical Careers. The capstone program is explained in chapter 3.

Persons interested in the program should contact the dean of the School of Technical Careers, for details concerning advisement, program requirements, the learning contract, and the many educational possibilities available through this unique program.

The following general education and technical courses are taught within the School of Technical Careers. They are open to students in associate and baccalaureate degree programs in the School of Technical Careers as well as to students in other academic units.

Courses

101-2 Business Correspondence. To equip students for effective letter writing so that they can compose letters quickly, easily, and efficiently as a basic goal of this course. It will help the student form good habits that will facilitate adaptability in the business world. The student will strive to develop naturalness, courtesy, tact, honesty, and a positive attitude in the construction and use of business correspondence. Lecture and individualized instruction two hours.

102-2 Technical Writing. To successfully complete this course, students should be proficient in particular writing techniques (technical description, definition, classification, abstracting, etc.) and follow through a library research project in their individual technical fields. Lecture two hours and individualized instruction.

103-2 Fundamentals of Mathematics. This course is pre-technical level intended for those who have had no high school algebra or whose scores on the School of Technical Careers Mathematics Placement Test indicate a need for it. The course will enable the student to perform the fundamental operations with integers, common fractions, and decimals; to solve problems involving ratio, proportion, and percent; to use measurement concepts and geometric formulas to compute areas, volumes, and perimeters; and to perform basic algebraic operations. Semi-programmed instruction. Four hours per week.

105-4 (2,2) Technical Mathematics. Will enable the student to solve problems within the context of engineering technologies. (a) Emphasizes the use of algebraic equations and geometric relationships and formulas, and right triangle trigonometry. Lecture-discussion, four hours per week for eight weeks. (b) Emphasizes the application of trigonometric relationships to problems in applied technologies, and contains additional topics in algebra including linear systems, quadratic equations, and exponential and logarithmic functions. The use of electronic calculators is encouraged when appropriate. Lecture-discussion, four hours per week for eight weeks. Prerequisite: one year of high school algebra or equivalent.

107-4 (2, 2) Applied Physics. Places emphasis on basic and applied physics at a level consistent with technical education objectives. The student will learn laws and principles and solve problems pertaining to (a) mechanics and the structure of matter, (b) heat and electricity. Lecture-discussion four hours per week. Prerequisite: 105a or equivalent.

108-2 Chemistry of Fuels and Lubricants. The student will demonstrate the ability to analyze fuels and lubricants and detect impurities and contaminants. (Lecture two hours, Laboratory three hours. Eight weeks.)

115-5 (2, 3) Introduction to Chemistry. (a) Inorganic. The student will study the structure of

matter, including a survey of common elements and compounds and the changes during chemical reactions, and will also study inorganic bases, salts, solutions, the periodic tables, equation balancing, and metric tables. (Lecture three hours. Laboratory two hours. Eight weeks.) (b) **Biological.** The student will study the chemistry of organic compounds, carbohydrates, proteins, and lipids relating them specifically to body functions. The student will also study the chemistry of digestion, metabolism, respiration, blood enzymes, hormones, and vitamins. (Lecture four hours. Laboratory three hours. Eight weeks.) Must be taken in a, b sequence.

118-2 Applied Calculus. Upon successful completion of this course, the student will be able to find derivatives and integrals of algebraic expressions, and will use this working knowledge of calculus as a tool to solve technical problems in the mechanical, civil, and electrical-electronic fields; to converse intelligently with engineers and scientists who speak the language of calculus; and to read technical articles written in that language. Lecture-discussion two hours. Prerequisite: 105 or Mathematics 111.

120-3 Fiscal Aspects of Technical Careers I. An individualized program of instruction designed to acquaint students enrolled in the various technical programs of the School of Technical Careers with applications and procedures common to their area of specialization. Students will be able to demonstrate a basic working knowledge of the standard documents and procedures related to their specific area through the use of business working papers and practice sets. Open only to students in the School of Technical Careers. Lecture three hours.

141-3 Introduction to Physiology and Human Anatomy. The student will survey the functions and structures of the nine basic body systems: digestive, respiratory, skeletal, muscular, excretory, reproductive, endocrine, circulatory, and nervous. Lecture three hours.

153A-2 Oral Reporting. Successful completion of this course equips the student to construct and execute effective informative oral communications, recognize and use basic methods of logical organization, make a logical and coherent oral progress report, and take a more positive role in the world of business and industry. Lecture and individualized instruction, four hours per week. Eight weeks.

153B-2 Conference Methods. Upon successful completion of this course, the student will be able to identify and use basic problem solving methods, take a positive role in a typical business conference, and effectively manage the mechanics of dyadic and public oral communications within the typical business framework. Lecture, individualized instruction, and special projects, four hours per week. Eight weeks.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chairperson.

200-3 Primary Flight Theory. Prepares the beginning aviation student for the FAA Private Pilot Written Examination. Consists of instruction in aerodynamics, FAA regulations, primary navigation, use of computer, weather, and radio navigation.

201-2 Flight — Primary. Prepares the beginning student in flight to pass the practical examination (flight test) for the Private Pilot Certificate. Consists of 45 hours of flight training, which includes 30 hours of dual flight instruction, five of which is in a simulator; and 15 hours of solo flight. Each training flight is also preceded by a briefing by the instructor and a post-flight critique. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport.

202-2 Flight — Basic and Intermediate Theory. Continuation of ground school above the primary level. Course consists of 32 hours of classroom instruction in Federal Aviation Regulations pertaining to operations relating to commercial flight, aerodynamics, safety, weather, and the safe operation of aircraft.

203-1 Flight — Basic. Beginning course in preparation for the Commercial Certificate. Course consists of 50 hours of flight training. Includes pre-flight briefing and post-flight critique by the flight instructor. Of the 50 hours, ten hours are dual flights and 40 hours are solo flights. Includes dual night flights and 17 hours of solo cross-country. This course carries substantial charges which may change from time to time. For exact charge contact the Air Institute and Service, Southern Illinois Airport.

204-1 Flight — Intermediate. Continuing preparation for the Commercial Certificate. Consists of 50 hours of flight training. Includes preflight and post-flight briefing by instructor. Includes ten hours of dual flight instruction, five hours of night flights, 15 hours of solo cross-country, and 20 hours of solo practice on advanced maneuvers.

205-2 Flight — Instrument Theory. Course is directed to the theory of flight by instrument. Consists of thirty-two hours of classroom instruction in Federal Aviation Regulations pertaining to instrument flight, navigation by radio aids, aviation weather, and function, use, and limitations of instruments required for instrument flight.

206-4 Flight — Instrument and Advanced. This flight course will complete requirements for the Commercial Certificate, and will consist of 45 hours. Included in the 45 hours are 20 hours of instrument flight instruction in an airplane, 10 hours in an instrument simulator, 10 hours dual on flight maneuvers, and five hours of solo practice on maneuvers required to pass an FAA commercial flight test. This course carries substantial charges which may change from

time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport.

207-1 Flight — Multi-Engine Operations. Prepares the student for the FAA Multi-Engine Rating (airplane). Includes ten hours of flight training in multi-engine aircraft; and ten hours of individual ground instruction. This course carries substantial charge which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport.

210-4 (2, 2) Job Orientation and Analysis. (a) Special instructional sessions offered on personality, clothing, job application, and professional ethics. Preparation of a portfolio consisting of a personal data sheet, an analysis of prospective employing firms, sample letters of application, and an acceptance or refusal. Practice in being interviewed by representatives of business and industry. (b) Students will be required to discover their interests in career opportunities, to explore these fields, and to discover job opportunities in their interest areas. Lecture four hours. Need not be taken in sequence.

215-6 (3, 3) Drafting Graphics. Use of drafting instruments, development of lettering and linework; geometric construction, orthographic projections, sections, reflected plans, pictorial drawings, perspective, shades and shadows, and their adaption to print reading and production. (a) Instruments, lettering, linework, geometric construction, orthographic projections, sections, reflected plans, shades and shadows, non-perspective pictorial drawings. One hour lecture, five hours lab. Taken concurrently with Interior Design 231. (b) Perspective drawing methods, both interior and exterior with emphasis on interior perspectives including Klok Board, direct measurement, Lockard freehand perspective, geometric relationships, and shades and shadows and reflections in perspective drawings. One hour lecture, five hours laboratory. Must be taken in a, b sequence.

220-3 Fiscal Aspects of Technical Careers II. A continuation of 120 for selected curriculum areas. Emphasis on continued development of knowledge and skills typically involved in small business management, ownership, partnerships, and corporations. New areas of study will include automated data processing, cost estimating, and payroll tax procedures through the use of business working papers and a practice set. Prerequisite: 120.

258-1 to 30 Work Experience Credit. Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by departmental evaluation.

259-1 to 60 Occupational Education Credit. A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chairperson is required.

300-2 Flight-Instructor (Airplane). Prepares the commercial pilot for an FAA Flight Instructor Certificate. Includes 20 hours of dual flight training and 40 hours of specialized ground instruction. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport.

301-1 Flight-Instructor (Airplane-Multi-Engine). This course consists of five hours of dual flight instruction and 10 hours of classroom instruction. Prepares the holder of a flight instructor certificate for the addition of the multi-engine flight instructor rating. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport.

302-1 Flight-Instructor (Airplane Instrument). Designed to prepare the flight instructor to teach instrument flying, and to acquire the Instrument Flight Rating. Course consists of ten hours of dual flight instruction and 15 hours of classroom instruction. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport.

303-3 Flight Instructor Ground School. This course is designed to aid the student who is obtaining a flight instructor's rating. It will cover principles of teaching as well as practical aspects of teaching flight maneuvers necessary for instruction.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the perceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

320-1 to 10 Work Study Internship. Provides work-study students with an opportunity to participate in an on-campus work experience related to their academic program and career objectives. Hours and credits are to be individually arranged. Mandatory Pass/Fail.

321-3 Seminar in Technical Careers. The purpose of this course is to allow those School of Technical Careers baccalaureate students who have had little or no experience within their chosen careers to become acquainted with the current state of the professions to which they

aspire. The object is to help students prepare themselves for maximum competitiveness within the job market through awareness of existing job opportunities, knowledge of job requirements, and selection of course work appropriate to meet specifications of available positions.

332-3 Labor-Management Problems. Students will gain a general understanding of the economic situation of which labor-management problems represent a subset. They will develop a perspective on the evolution of labor relations in the United States economy and on how the interaction of labor and management differs throughout the world. The collective bargaining section introduces the student to the techniques of bargaining used by labor and management in their ongoing interactions. Lecture three hours.

340-3 Application of Solid State Devices. A technical management approach to the practical application of solid state devices in business and industry. Characteristics of these devices will be reviewed to promote understanding of the selection and application process. Special emphasis will be given to the application of linear integrated circuits as well as the operational amplifier and its application instrumentation. Prerequisite: consent of department.

341-3 Digital Circuit Applications. Applications of digital electronic devices and circuits in business and industry. Geared to the needs of the technical manager, this course builds upon the student's knowledge of basic electronics theory. Basic principles of subsystems are reviewed to assist the student in understanding their selection and application to business and industrial settings. Prerequisite: consent of instructor.

342-3 Microcomputer Applications. The microcomputer approached from the standpoint of the technical manager. The primary emphasis of this course is on the practical uses of microcomputer systems in business and industry. Basic characteristics and principles of microcomputers will be reviewed to provide an understanding of applications in specific business and industrial settings. Prerequisite: consent of department.

343-3 Microcomputer Application Laboratory. Laboratory experiences selected to reinforce microcomputer characteristics and practical applications in business and industry. Students sample applications of microcomputer systems on an operational microprocessor. Prerequisite: consent of department.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

361-3 Fiscal Aspects of Technical Management. An introduction to fiscal structures and problems encountered in the technically oriented enterprise. Lecture three hours.

362-3 Legal Aspects of Technical Management. An introduction to the types of legal problems encountered in the technically oriented enterprise. Lecture three hours.

363-1 to 3 Special Problems in Technical Management. Independent study for qualified students. (a) Aviation management; (b) Health care services; (c) Construction management; (d) Electronics systems; (e) Fire science; (f) Technical management.

364-3 Work Center Management. A study of the problems of managing a small working unit (division, department, work center, section, etc.) within a larger unit (agency, company, regional office, etc.). Included items will be work center goals identification, staffing needs, monitoring of work progress reporting, work center communications, and interpersonal relations within the work center. Lecture three hours.

370-3 Airport Planning. To acquaint the student with the basic concepts of airport planning and construction, as well as an investigation of various community characteristics and resources.

371-3 Aviation Industry Regulation. A study of the various regulatory agencies of the industry and their functions.

372-3 Airport Management. A study of the operation of an airport devoted to the phases of lighting, fuel systems, field marking, field buildings, hangars, and surrounding community.

373-3 Airline Management. A study of the administrative aspects of airline operation and management including a detailed study of airline organizational structure.

374-3 General Aviation Operations. A study of general aviation operations including fixed base operations (fuel, sales, flight training, charter, etc.), corporate aviation (business aviation, corporate flight departments, executive air fleets, etc.) and the general aviation aircraft manufacturing industry.

375-3 Legal Aspects of Aviation. The student will develop an awareness of air transportation. The course will emphasize basic law as it relates to contracts, personnel, liabilities, and legal authority of governmental units and agencies. Lecture three hours.

376-3 Aviation Maintenance Management. To familiarize the student with the functions and responsibilities of the aviation maintenance manager. Maintenance management at the fixed base operator, commuter/regional airline, and national air carrier levels will be studied. Aviation maintenance management problems areas will be reviewed using the case study method.

380-3 Seminar in Health Care Services. Seminar on the various existing and emerging issues which affect control and implementation of health care services to consumers. Topics include

but not limited to manpower, information, technology, materials, financing, and data utilization.

381-3 Health Care Management. A study of the principles of effective management techniques including planning, decision making, organizing, budgeting, communication, and direction.

382-3 Health Economics. An analysis of the economics of health care in the United States and its effect on society and the health care profession.

383-3 Data Interpretation. A course designed for students beginning their major program of study to examine data use in their respective professions. Emphasis will be placed upon an understanding of the basic principles and techniques involved with analysis, synthesis, and utilization of data.

384-3 Equipment and Material Management in Health Facilities. Prepares health care administrators with the necessary management tools to assure comfort, safety, and well-being of patients, hospital personnel, and visitors, and to focus their attention on sound maintenance management practices, materials procurement, storage and preservation, records keeping, and the utilities systems needed in a health care facility.

385-3 Fiscal Aspects of Health Facilities. An introduction to the fiscal problems encountered in the administration of health care facilities.

386-3 Fiscal Aspects of Aviation Management. An introduction to the fiscal problems encountered in the administration of aviation facilities.

387-3 Fiscal Aspects of Fire Service. An introduction to the fiscal problems encountered in the administration of fire service facilities.

388-3 Legal Aspects of Health Care. To supply the student an awareness of the legal requirements affecting health care facilities. The course will emphasize the basic law of contracts, consents, records, personnel, liabilities, privacy, and other routine functions. Successful students acquire an understanding of the need for legal counsel. Lecture three hours.

400-1 Flight-Airline Transport Pilot. Prepares the commercial pilot for the FAA Airline Transport Pilot Certificate. Includes 40 hours of ground instruction and 20 hours of flight training in single-engine or multi-engine aircraft. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport. Not for graduate credit.

401-3 Current Issues in Aviation Management. A review of current problems affecting the aviation industry with particular emphasis on resource allocation, planning, and internal and external constraints. Not for graduate credit. Prerequisite: a course in economics or marketing, senior standing, consent of instructor.

402-3 Current Issues in Fire Science Services. A review of the current problems affecting the fire service with particular emphasis on resource allocation, planning, and constraints. Not for graduate credit.

410-3 Fire Prevention and Inspection. Laws and regulations affecting fire prevention; administering building and fire codes; interpreting building, fire prevention, and state fire marshal codes; and inspection procedures. Not for graduate credit.

411-3 Fire Insurance Rating. Analysis of fire hazards for computing fire insurance rates. Actuarial basis of rating schedules with particular emphasis on the analytic system for measurement of relative fire hazard. Not for graduate credit.

412-3 Grantsmanship. Provides the student with an understanding of the availability of public and private funding in a specific technical area, how to apply for such funds, the process for approving such applications for funding, how the grants are administered once awarded, and who the funding agencies, companies, or foundations are. Each student will prepare a grant proposal including objective statements, study methodology, work program, work schedule, program budget, end products, and overall packaging. Not for graduate credit.

415-3 On Dying and Death. Students will study the process of death, grief, and bereavement. Emphasis on the practical aspects of coping with the many problems concerning death. Not for graduate credit.

416-3 Applications of Technical Information. This course is designed to increase student competence in analyzing and utilizing the various types of technical information encountered by managers in technical fields. Not for graduate credit.

421-1 to 3 Professional Development. Introduces students to the various elements involved in obtaining a position in their chosen career field. Topics included are: personal inventories, placement services, employment agencies, interviewing techniques, resumes, letters of application, references, and employment tests. Each student will develop a portfolio including personal and professional information related to individual career goals. Not for graduate credit. Prerequisite: enrollment in School of Technical Careers baccalaureate program or consent of instructor. Elective Pass/Fail.

426-3 Technical Training for International Development. A better understanding of the necessary relationships between technology, technical training, and development, especially in third world countries. The successful completion of this course allows for a more effective appreciation in the transfer of technical training from the United States to other developing areas of the world which may include not only other nations but also underdeveloped parts of the United States. Not for graduate credit.

Technology (Department)

Two degree programs are available in technology. One program leads to the Bachelor of Science degree with a major in engineering technology (see Engineering Technology) with specialization in one of three areas: civil engineering technology, electrical engineering technology, or mechanical engineering technology. The other program leads to the Bachelor of Science degree with a major in industrial technology (see Industrial Technology) with specialization in one of three areas: industrial technology, industrial technology-occupational, or mining technology.

Engineering technology courses contain topics related to the design and development of products. Industrial technology courses contain topics related to the manufacture and distribution of products.

The present technological society has increased the demand for new types of personnel known as technologists. A technologist utilizes established methods to achieve improvements in existing designs and systems. Technologists should be knowledgeable in the state of the art of a particular technology, capable of utilizing handbooks and other forms of codified information with skill and discrimination, and sufficiently versed in mathematics and science to recognize sound procedures.

The technology programs are flexible enough to provide the means whereby a graduate of a two-year occupational program can obtain a bachelor's degree in a minimum length of time. The industrial technology program provides credit to individuals for related work experience outside the institution.

The programs are designed to provide the necessary training for entry into employment upon the completion of the baccalaureate degree. Opportunities for advanced study are available in business-related fields or in education.

Theater (Department, Major, Courses)

The Department of Theater has as its objective the continuing development of a program blending the academic and practical aspects of the discipline. A broad knowledge of theater is afforded through the theater core curriculum and specific specializations are provided in acting-directing, design-technical and play-writing-dramatic literature. In addition, theater majors may elect to take courses in various other disciplines including music, speech communication, television, cinema, art, and the humanities.

Coordinated with the academic programs is a broad schedule of productions including musical productions, children's theater plays, original works, dramas, and numerous experimental and laboratory works. Direct practical involvement is required of all students and the production schedule is extensive enough to allow students the opportunity to design sets, lights, costumes, and to write, act, and direct for these productions. Students have the additional advantages of work with visiting artists and participation in the Summer Theater program.

Bachelor of Arts Degree, College of Communications and Fine Arts

All theater majors must complete a minimum of 75 hours of courses in addition to the General Studies requirements. Of these hours, 48 constitute a specific specialization and 27 make up the theater core curriculum which is required of all majors. Majors must take a minimum of 12 credit hours in 400-level theater courses beyond the theater core. A letter grade of C or better is required of all majors in theater core courses. Transfer students may obtain transfer or equivalency credit for theater courses by petitioning the departmental curriculum committee.

<i>General Studies Requirements</i>	45
GSC 365	3
GSD 153	3
<i>Requirements for Major in Theater</i>	75
Theater Core Curriculum	27
Theater 218a	3
Theater 218b or c	3
Theater 217	3
Theater 300	3
Theater 311a	3
Theater 354a, b	6
Theater 402a	3
English (dramatic literature)	3
Theater Specialization (Requirements listed below)	48
<i>Total</i>	120
 THEATER MAJOR — ACTING-DIRECTING SPECIALIZATION	
Theater 317a, b, 417a	9
Theater 213a, b	6
Theater 203a, b	6
Theater 403a	2
Theater 402b(Required for students whose primary interest is directing)...	3
Electives	22-25
<i>Total</i>	48
Qualified students in the acting-directing specialization may take an additional course of speech study (Theater 403b) or acting (Theater 417b) or movement (413a, b) with the consent of the instructor. Students whose primary interest is directing are urged to take Theater 207 and 307.	
 THEATER MAJOR — DESIGN-TECHNICAL SPECIALIZATION	
Theater 218b or c	3
Theater 207, 307, 407	9
Theater 414a	3
Theater 418	3
Art (by advisement)	6
Theater electives	12
Electives	12
<i>Total</i>	48
 THEATER MAJOR — PLAYWRITING-DRAMATIC LITERATURE SPECIALIZATION	
Theater 311b, 411a, 411b	9
Theater 402b	3
English 460, 462, 464, 465 (select one)	3
English 468	3
Radio and Television 300M or Cinema and Photography 452	3-4
Theater electives	14-15
Electives	12
<i>Total</i>	48
 Minor	
<i>Requirements for Minor in Theater</i>	21

Theater 218a, b, c (select two).....	6
Theater 217.....	3
Theater 311a.....	3
Theater 354a, b.....	6
Theater Electives.....	3

Courses

- 203-6 (3, 3) Voice and Diction.** (a) Voice Production. Basic training in control of breathing, vocal tone, resonance, and vocal power for the beginning actor. (b) Diction. Consonant and vowel production; pronunciation for the actor. Prerequisite: 203a.
- 205-2 Stage Make-Up.** Theory and technique of various types of make-ups. Supplies, at least \$10 per semester.
- 207-3 Drafting for the Theater.** Development of the student's skill in scenographic techniques including ground plans, sections, elevations, and detail construction drawings.
- 213-6 (3, 3) Stage Movement.** Fundamentals of movement for the performer. (a) Body awareness/assessment; increasing control and exploring basic elements of movement. (b) Applications of basic elements to characterization. Elementary combat techniques and use of props and costume will be introduced. Must be taken in a,b sequence.
- 217-3 Acting.** Preparing the actor's instrument through Stanislavskian technique; concentration/relaxation exercises; improvisations. The course objective is the discovery and development of the actor's inner resources. Contemporary American plays are studied from the actor's point of view. Readings are selected from the work of Stanislavsky, Boleslavsky, and Michael Chekhov. A final scene is chosen from the genre of American realism. Elective Pass/Fail
- 218-9 (3,3,3) Beginning Stagecraft.** (a) Fundamentals of scenic construction and stage rigging and fundamentals of stage lighting including basic tools, equipment, hanging, focusing, and maintenance and basic techniques of constructing and handling stage costume. (b) Basic investigation of stage lighting design, theory, and professional practice. Special attention will be focused on color theory and its application to stage lighting. (c) Basic techniques of constructing and handling stage costume.
- 260-1 to 15 Internship.** Up to fifteen hours of credit awarded for off-campus internship which is related to the major program but not part of a regular instructional course. Written reports are required of student and supervisor. Prerequisite: theater major only; written proposals must be approved by undergraduate adviser and curriculum committee prior to internship.
- 300-3 Theater Practicum.** Theater practicum offering students an opportunity to increase their skills in stagecraft and stage lighting by working on department productions. Prerequisite: 218a.
- 307-3 Stage Design I.** The design of settings for the stage and other dramatic media. Prerequisites: 207, 300. Elective Pass/Fail.
- 311A-3 Play Analysis.** Development of basic skills in play analysis and application of these skills to a variety of dramatic forms through class discussions and written assignments. Prerequisite: GSC 203 or one course in dramatic literature.
- 311B-3 to 6 Playwriting Workshop for Actors.** Practical experience in acting in original plays combined with class discussions and critiques. Actors attend class sessions as well as rehearsals and have their work progressively evaluated. Six credit hours are awarded for the more intensive workshop sessions in the summer while three credits are available during the academic year. Workshop productions are staged in cooperation with 511. Prerequisite: audition; 217 for majors, no prior courses for non-majors. Elective Pass/Fail.
- 317-6 (3, 3) Intermediate Acting.** (a) Continuation of the actor's development of inner resources with emphasis on characterization. Mask and body center exercises; characterization through costume, props, music. Discussion of the techniques of outstanding actors. Prerequisite: 217. (b) Preliminary scene study. Emphasis on American realism. Extended scenes rehearsed and performed. Written character analyses required. Prerequisite: 203a, 213a, 317a.
- 318-3 Advanced Stagecraft.** Advanced study of the principles and procedures of scenic construction and stage rigging. Includes fundamentals of scene shop organization, materials, and specialized stage equipment. Three hours lecture and laboratory to be arranged. Prerequisite: 218a, b, and 307.
- 322-1 to 12 SIU Summer Theater.** Practical experience in summer stock play production. A maximum of twelve credit hours may be accumulated for performance or technical work in SIU Summer Theater only. Open to majors or non-majors. Prerequisite: audition or consent of instructor.
- 323-1 to 6 Practicum of Non-Majors.** Practical experience in performing or production areas for non-majors. Up to six hours may be taken at one time. This course may not be applied to a major in theater. Prerequisite: audition or consent of instructor.
- 354-6 (3, 3) History of the Theater.** (a) Theater history from primitive times through the 17th century. (b) Theater history from the 18th century to the present.
- 390-1 to 6 Independent Study.** Independent work on selected problems in academic or blend

of academic and creative research. A maximum of three hours may be taken for a single project and a cumulative maximum of six hours may count toward the degree. Prerequisite: majors only; written proposals; consent of undergraduate adviser and instructor.

400-1 to 6 (2 per semester) Production. Crew practicum for support of major department productions in all areas: costume, makeup, props, set construction, etc. Crew assignments made by department technical director early each semester. Roles in department productions may fulfill requirement. Prerequisite: 300.

402-6 (3, 3) Play Directing. (a) Introduction to directing. The history of the director; the evolution of the director into a position of predominance in modern theater hierarchy. The function of the director; an examination of theoretical viewpoint. Textual analysis; establishing the groundwork for the director's approach to production. Prerequisite: junior standing; 207, 217 and 311a; or consent of instructor. (b) The principles of play direction including play selection, analysis and patterning of auditory and visual elements of production. Extensive scene work in class; direction of a full one-act play by the end of the semester. Prerequisite: 402a or consent of instructor.

403-4 (2, 2) Advanced Theater Speech Studies. (a) Standard stage speech. Advanced training in vocal variety and flexibility. Expanded work with phonetics and application to play readings, poetry, etc. Prerequisite: 303b for undergraduates, no prerequisite for Master of Fine Arts acting students. (b) Vocal characterization. Applications of standard speech to characterization, verse plays, etc. Includes an approach to common American dialects. Prerequisite: 403a.

404-3 Theater Management. Discussion of legal and financial aspects concerning the professional and community theaters of the United States. Consideration of and practice in managerial activities of an educational theater including administration, purchasing, and accounting practices, direct sales, publicity, promotion, and public relations.

407-3 Stage Design II. Continuation of work in 307 on an advanced level. Prerequisite: 207, 300, 307. Elective Pass/Fail.

408-3 Model Making. The craft of scenic model making for the stage and other dramatic media. Prerequisite: 207, 300, 307, 407. Elective Pass/Fail.

410-3 Children's Theater. Study of methods and their practical application of introducing children to theatre and theatrical productions as an art form. Includes the writing of a short play for children. Recommended for majors in education programs.

411A-3 Playwriting — The One-Act Play. Principles of dramatic construction and practice in the writing of two one-act plays. Problems of adaptation are treated. Individual plays have the opportunity to be produced in the theater's Quarter-Night program for new plays. Prerequisite: one course in dramatic literature for non-majors and graduates; 311a for undergraduate theater and speech communication majors; or consent of instructor. Elective Pass/Fail.

411B-3 Playwriting — The Full-Length Play. Principles of dramatic construction and practice in the writing of a full-length play, encompassing such varied types of the children's play, the musical, the outdoor historical drama, etc. In special cases, students may elect to write three short plays. Prerequisite: 411A or consent of instructor for non-majors; 311a for undergraduate theater majors. Elective Pass/Fail.

413-4 (2, 2) Advanced Stage Movement. (a) Special movement problems encountered by the actor: falls, combat, mime, working with costumes, props, music. Continued work in characterization and movement skills mastery. Prerequisite: 213a, b for undergraduates; no prerequisite for Master of Fine Arts students. (b) Period styles of movement: bows, curtsies, postures, and dances. Research and practical applications. Prerequisite: 413a.

414-6 (3, 3) Costume Design. (a) History of western costume from Greek to Renaissance and its adaptation to stage use. Theory and principles of theatrical costuming. Application of principles of design and color. Designs for single scenes. (b) History of costume, Renaissance through 19th century. Style, fantasy, and the comic in costume design. Principles of dramatic theory and criticism as applied to costume design. Evaluation of research tools. Methods and procedures in designing costumes for a complete show. Prerequisite: 414a.

417-6 (3, 3) Advanced Acting. (a) Advanced scene study. Scenes from the Poetic Realists (Ibsen, Chekhov, Strindberg, etc.) Emphasis is on the ability to build and sustain a character. Audition technique is explored. Prerequisite: 317b. (b) Elizabethan style. Scenes and soliloquies from the plays of Shakespeare, Marlowe, Jonson. Fencing and stage combat applied to scene work. Prerequisite: 417a.

418-3 Advanced Stage Lighting. Investigation of stage lighting design, theory, and professional practice. Special attention will be focused on color theory and its application to stage lighting. Three hours lecture and laboratory to be arranged. Prerequisite: 218a, b, c, or consent of instructor.

454-3 American Theater. The development of American theater and its environment from colonial times to the present. Includes a study of the American musical theater from preminstrels through contemporary music-drama.

489-3 to 6 Theater-Television Workshop. Advanced work in the producing, acting, writing of original television drama. Prerequisite: C grade in Radio-Television 300M, 300P and consent of instructor for radio-television majors; consent of instructor for theater and other majors.

500-2 Introduction to Research Methods.

501-2 Contemporary Developments.
502-3 Advanced Directing.
503-4 (2, 2) Graduate Theater Speech Studies.
504-3 The Comic Theater.
505-3 The Tragic Theater.
511-3 to 6 Playwriting Workshop.
513-4 (2, 2) Stage Movement for Graduate Actors.
517-6 (3, 3) Graduate Acting Studio.
522-1 to 12 SIU Summer Theater.
526-3 to 12 (3 per topic) Seminar in Theater Arts.
530-1 to 12 Independent Study.
550-2 to 6 (2 per topic) Topical Seminar.
599-1 to 6 Thesis.
600-1 to 36 (1 to 16 per semester) Dissertation.
601-1 to 12 per semester Continuing Research.

Thermal and Environmental Engineering

(Department, Major [Engineering], Courses)

(SEE ENGINEERING)

Tool and Manufacturing Technology

(Program, Major, Courses)

Graduates of tool and manufacturing technology machine tool (numerical control), specialization, will have the technical background to assist engineers in research, development, and testing. They will also have skills in metal cutting enabling them to follow through on jobs requiring the abilities of a tool maker.

For those students whose career objectives are directed to the areas of welding and fabrication, the metal fabrication and processes specialization provides an opportunity to blend basic machining skills with welding and fabrication skills in addition to developing the technical background necessary to assist engineers in research, development, and testing.

The tool and manufacturing curriculum is designed to accept students without previous experience. Those students entering with industrial experience, or special courses which were taken during military training, will be given course credit. Transfer students from community colleges will be accepted and given credit for course work where it is applicable.

Upon completion of the tool and manufacturing program, students readily obtain positions in the areas of engineering technicians testing components and materials, pilot model makers, tool and die work, mold making, supervisors of numerical control production lines, programmers, process planners, certified welders, iron workers, and machine maintenance. With additional on-the-job experience, many graduates of tool and manufacturing technology enter into supervisory positions.

The tool and manufacturing curriculum fits between the areas occupied by the mechanical and manufacturing engineer and the skilled technician. It includes theory, procedures, techniques, and skills from each of these areas and falls approximately halfway between.

Students in this program will have the advantage of courses in data processing that will give them the ability to work with computer-assisted programming for numerical controlled machines.

They will learn to design and test industrial, hydraulic, and pneumatic power circuits; to read blueprints, design basic jigs and fixtures, make shop sketches, and alter existing machines for structural changes; build basic progressive dies, draw dies, die casting dies, and plastic injection mold dies; fabricate and repair machin-

ery and equipment; select proper materials and heat treat tool steels, perform sophisticated welding operations; develop process planning sequences.

Students in tool and manufacturing technology should expect to spend about \$100 for instruments, tools, and supplies.

Representatives of industry serve on an advisory committee which helps to keep the program responsive to the needs in the field. Current members are: Delbert Lalicker, Consolidation Coal Co., Pinckneyville; Ed Marshall, General Electric Co., Carbondale; Fred Meyers, Southern Illinois University at Carbondale, Carbondale; Charles Stallings, Mt. Vernon High School, Mt. Vernon; Roy Volk, Hartwig Inc., St. Louis; Wayne Wilmore, Old Ben Coal Co., Benton.

The associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, School of Technical Careers

TOOL AND MANUFACTURING TECHNOLOGY MAJOR — MACHINE TOOL (NUMERICAL CONTROL) SPECIALIZATION

GSD 101.....	3
Social science elective.....	3
Communication elective (speech or technical report writing).....	2-3
Electronic Data Processing 208a.....	4
School of Technical Careers 105a, b, 107a, b.....	8
Tool and Manufacturing Technology 101, 102, 125, 126, 128, 185, 186, 210, 211, 220, 221, 225, 275, 276.....	56
Total.....	76-77

TOOL AND MANUFACTURING TECHNOLOGY MAJOR — METAL FABRICATION AND PROCESSES SPECIALIZATION

GSD 101.....	3
Social science elective.....	3
Communication elective (speech or technical report writing).....	2-3
School of Technical Careers 105a, b, 107a, b.....	8
Tool and Manufacturing Technology 101, 102, 125, 126, 128, 180, 181, 182, 183, 185, 225, 275, 276, 310.....	55
Total.....	71-72

Courses

101-1 to 7 Basic Tool and Manufacturing Laboratory. The student will perform the basic operations covering the drill press, engine lathe, shaper, and basic bench work operations involving layout and hand tools. The operation of the shaper as a unit production machine is covered. Laboratory five to fifteen hours.

102-1 to 7 Milling Machine and Grinding Laboratory. The student will demonstrate ability to set up and operate the various milling machines and grinding machines common to the tool room and manufacturing operations. Laboratory five to fifteen hours. Prerequisite: 101 or consent of instructor.

125-1 to 3 Introduction to Machine Tools. The student will demonstrate knowledge of the basic machine tool operations; also, bench and hand tool techniques. Lecture one to three hours.

126-1 to 3 Machinability of Metals, Milling, and Abrasive Machining. Students will demonstrate ability to selected correct cutting speeds, feeds, and tool geometry for various alloy steels and to understand the relationship of the factors involved. They will be required to understand the various tool room and production milling machine and grinders; their construction, set-up, and operations. Lecture one to three hours. Prerequisite: 125 or consent of instructor.

128-2 Hydraulic and Pneumatic Controls. The student will be required to understand industrial fluid power and its application in industry. The student designs, tests, and implements

hydraulic and pneumatic circuits that are applicable to industry. Lecture one hour. Laboratory two hours.

180-3 Welding I. The student will demonstrate ability to apply the basic procedures in oxy-acetylene welding. Lecture one hour. Laboratory four hours.

181-3 Welding II. The student will demonstrate ability to apply basic welding procedures in metallic arc welding. Lecture one hour. Laboratory four hours.

182-3 Welding III. The student will demonstrate ability to apply basic welding procedures in T.I.G., M.I.G., and special welding and cutting applications. Lecture one hour. Laboratory four hours. Prerequisite: 181 or consent of instructor.

183-2 Welding Blueprint Reading. Emphasizes the basic fundamentals of drawing interpretation as applied to welding and metal fabrication. The student will be expected to develop a core of blueprint reading skills in addition to a thorough familiarization of welding symbols and their significance. Through individualized instruction, students will progress at their own rate until course requirements have been satisfied as certified by the supervising faculty member.

185-4 Technical Drawing I. Upon completion of this course, the student should be able to read and sketch pictorial and multiview drawings which include auxiliary views, sectional views, assemblies, weldments, up-to-date types of precision dimensioning, and many types of fasteners and machine elements. Lecture two hours. Laboratory three hours.

186-4 Technical Drawing II. Upon completion of this course the student should be able to read more complex drawings, use drawing instruments and geometric constructions where accuracy of layout is important, and design and draw simple jigs and fixtures. Lecture two hours. Laboratory three hours. Prerequisite: 185 or consent of instructor.

210-1 to 7 Numerical Control, Electrical Discharge Machining, and Tool and Die. The student will demonstrate ability to set-up and operate the numerically controlled milling machine for production jobs; to set-up and operate the electrical discharge machine on die and mold making applications; and to build progressive compound and forming dies. Laboratory five to fifteen hours. Prerequisite: 102 or consent of instructor.

211-1 to 7 Advanced Numerical Control, Tool and Die, and Production Machining. Students will demonstrate ability to set-up and operate advanced production jobs on the turret lathe, tracer lathe, and numerically controlled milling machines. They will build progressive dies and mold dies. Laboratory five to fifteen hours. Prerequisite: 210 or consent of instructor.

220-1 to 3 Numerical Control, Inspection Practices, and Electrical Discharge. The student will demonstrate ability to program for typical industrial jobs using point to point programming, to understand the E.D.M. process and to select proper machine settings for a given application, and to understand inspection practices and precision measuring procedures. Lecture one to three hours. Prerequisite: 126 or consent of instructor.

221-1 to 3 Tool and Die, Production Machining, and Process Planning. The student will demonstrate ability to process plan and run cost estimates on typical production jobs; to understand basic die design and components in relation to progressive compound and forming dies, and to understand production processes. Lecture one to three hours. Prerequisite: 220 or consent of instructor.

225-2 Manufacturing Processes. A study of the techniques required to coordinate a diverse variety of manufacturing processes into the making of acceptable products. Special emphasis will be made on the role of the technician in the choice and application of selected processes. Lecture two hours. Prerequisite: 221 or consent of department.

275-2 Ferrous Metallurgy. The student will demonstrate understanding in the theory of alloys, characteristics of metals, simple phase diagrams and basic heat treating practices. Lecture two hours.

276-2 Tool Steel Metallurgy. Students will demonstrate ability to apply heat treating procedures with tool steel common to industrial uses. They must also be able to select the proper steel for the design criteria. Lecture one hour. Laboratory two hours. Prerequisite: 275 or consent of instructor.

310-3 to 24 Certified Welder Training. Students may choose a concentrated area of work such as pipe welding, boilermaking welding, or structural steel welding. Upon completion of this course students will pass the ASME code requirements in the welding area chosen. They may choose any one or all of the following processes; oxyacetylene, metallic arc, tungsten inert gas, metallic inert gas, and cored wire welding. Through individualized instruction students will progress at their own rate and may complete instruction at any time depending upon individual progress. Certified papers will be completed by the School of Technical Careers and will be given to the student or forwarded to an employer. Prerequisite: completion of formal welding program or equivalent work experience.

Uncommon Languages (Minor)

(SEE LINGUISTICS)

University Honors Program (Courses)

111-1 Freshman Honors Colloquium. Open to freshmen. Prerequisite: consent of the dean, General Academic Programs.

201-1 to 9 Honors Seminar. Undergraduate honors seminar. Topics vary and will be announced by the University Honors Program each time the course is offered. Prerequisite: consent of the dean, General Academic Programs.

251a-1 to 8 Honors Seminar in the Sciences. Seminars in the area of the natural sciences intended primarily for freshmen. These seminars may be used to satisfy the requirement for General Studies Area A. Prerequisite: consent of the dean, General Academic Programs.

251b-1 to 8 Honors Seminar in the Social Sciences. Seminars in the area of the social sciences intended primarily for freshmen. These seminars may be used to satisfy the requirement for General Studies Area B. Prerequisite: consent of the dean, General Academic Programs.

251c-1 to 8 Honors Seminar in the Humanities. Seminars in the area of the humanities intended primarily for freshmen. These seminars may be used to satisfy the requirement for General Studies Area C. Prerequisite: consent of the dean, General Academic Programs.

251d-1 to 6 Honors Seminar in Language or Mathematics. Seminars in the area of the organization and communication of ideas, intended primarily for freshmen. These seminars may be used to satisfy a part of the requirement for General Studies Area D. Prerequisite: consent of the dean, General Academic Programs.

251e-1 to 4 Honors Seminar in Health and Physical Education. Seminars in the area of health and physical education, intended primarily for freshmen. These seminars may be used to satisfy the requirement for General Studies Area E. Prerequisite: consent of the dean, General Academic Programs.

299-1 to 15 Honors Project. Preparation of honors paper or comparable project under joint supervision of University Honors Program and a faculty member of subject-matter department. Intended primarily for freshmen and sophomores. Prerequisite: consent of the dean, General Academic Programs.

301-1 to 9 Honors Seminar. Undergraduate honors seminar. Topics vary and will be announced by the University Honors Programs each time the course is offered. Prerequisite: consent of the dean, General Academic Programs.

351a-1 to 9 Honors Seminar in the Sciences. Seminars in the area of the natural sciences. These seminars may be used to satisfy the requirement for General Studies Area A. Prerequisite: consent of the dean, General Academic Programs.

351b-1 to 9 Honors Seminar in the Social Sciences. Seminars in the area of social sciences. These seminars may be used to satisfy the requirement for General Studies Area B. Prerequisite: consent of the dean, General Academic Programs.

351c-1 to 9 Honors Seminar in the Humanities. Seminars in the area of the humanities. These seminars may be used to satisfy the requirement for General Studies Area C. Prerequisite: consent of the dean, General Academic Programs.

351d-1 to 6 Honors Seminar in Language or Mathematics. Seminars in the area of the organization and communication of ideas. These seminars may be used to satisfy the requirement for General Studies Area D. Prerequisite: consent of the dean, General Academic Programs.

351e-1 to 4 Honors Seminar in Health and Physical Education. Seminars in the area of health and physical education. These seminars may be used to satisfy the requirement for General Studies Area E. Prerequisite: consent of the dean, General Academic Programs.

399-1 to 15 Honors Project. Preparation of honors paper or comparable project under joint supervision of University Honors Program and a faculty member of a subject-matter department. Prerequisite: consent of department and the dean, General Academic Programs.

499-3 to 9 Undergraduate Honors Thesis. Preparation of honors thesis under supervision of a committee consisting of one or more faculty members in appropriate disciplines and a representative of the University Honors Program.

University Studies (Program)

The University Studies program allows the eligible student to design a multidisciplinary, interdisciplinary, or general program of study leading to a Bachelor of Science or Bachelor of Arts degree. The Bachelor of Arts degree is granted to the graduate who has completed at least one full year of foreign language on the college level; the Bachelor of Science degree is granted to the graduate who has not completed a year of foreign language.

In order to be formally admitted to work toward a degree in University Studies, the student must meet the following criteria:

- 1. The student must have no more than 90 semester hours passed.
- 2. The student must have completed at least one full year of college course work — a minimum of 24 semester hours — with a 2.25 grade point average or higher. (For entering transfer students, the 2.25 must be for all college work previously completed; for continuing Southern Illinois University at Carbondale students, the 2.25 must be for all Southern Illinois University at Carbondale work.)
- 3. The student must not have exceeded any of the limitations prescribed by the program.
- 4. The student must have the individual program plan approved by the dean of General Academic Programs or the program representative.

There are few specific requirements for the degree in University Studies other than those requirements which are University-wide baccalaureate requirements. However, there are limitations on the selection of coursework to insure that students pursue a program that matches their abilities, educational goals, and future aspirations.

Bachelor of Arts Degree

<i>General Studies Requirements</i>	45 ¹
<i>Requirements for University Studies</i>	75 ²
Foreign language	(4) + 4
300-400 level coursework	40 ¹
Other courses as approved by the dean of General Academic Programs or a designated representative	31
Total	120

Bachelor of Science Degree

<i>General Studies Requirements</i>	45 ¹
<i>Requirements for University Studies</i>	75 ²
300-400 level coursework	40 ¹
Other courses as approved by the dean of General Academic Programs or a designated representative	35
Total	120

¹The student must have a minimum grade point average of 2.00 for the 40 semester hours of 300-400 level coursework. General Studies courses at the 300-level count toward both the General Studies requirements and toward the requirement of 40 semester hours at the 300-400 level.

²There are two limitations placed on course distribution:

- a. The student may take no more than 40 semester hours in any academic unit *excluding* the basic 45 semester hours required in General Studies — with the exception of the College of Liberal Arts where no more than 27 semester hours in the Social Sciences (excluding the nine semester hours required in Area B) and no more than 27 semester hours in the Humanities (excluding the nine semester hours required in Area C and excluding English Composition) may be taken.
- b. The student may take no more than 20 semester hours in a department (or in a School within a College). General Studies courses are to be included in the total *except* for the basic 45 semester hours required.

In other words, *any* General Studies courses taken in addition to the minimum requirements are counted both toward the academic unit limits allowed and toward the department limits allowed.

University (Courses)

Courses

257-3 to 12 Concurrent Work Experience. Elective credit for concurrent work experience by students enrolled in the University Studies degree program. Prerequisite: consent of department. Mandatory Pass/Fail.

258-1 to 30 Work Experience. Elective credit for previous work experience by students enrolled in the University Studies degree program when credit has been established by departmental evaluation.

259-1 to 60 Occupational Education. Designated elective credit for past occupational educational experiences related to students' educational objectives. Used only when specific program credit cannot be granted.

388-1 to 18 (1 to 9 per semester) International Studies. Course work undertaken as part of an approved University residential study program abroad. May be taken for a maximum of nine semester hours per semester and may be repeated for a maximum of 18 semester hours. Prerequisite: major department or program approval.

Vocational Education Studies (Department, Courses)

Programs are designed to prepare persons for teaching, supervisory, and leadership roles in elementary schools, secondary schools, colleges, military and industry in several areas of vocational and pre-vocational education. Students are made aware of and become knowledgeable about roles, relationships, and expertise in a variety of occupational subject areas including agriculture, business, career education, health, home economics, industrial arts, public service, and trades and industries. Several majors and specializations are offered. Qualified students may be accepted into the capstone program with majors in agricultural education, business education, home economics education, and occupational education. The capstone program is explained in chapter 3.

AGRICULTURAL EDUCATION (Major)

In this program a student will receive the technical and professional training needed to teach agricultural occupations in secondary schools, serve in extension, or be employed in industry. A student majoring in agricultural education may specialize in one of the following areas: agricultural production, agricultural supplies and services, agricultural mechanics, agricultural products, ornamental horticulture, agricultural resources, forestry, and other areas of agriculture in specially designed curricula. Students who wish to obtain joint certification in agricultural education and special education must complete that specialization. The Capstone program is available to qualified majors in agricultural education. The Capstone program is explained in chapter 3.

Bachelor of Science Degree, College of Education or School of Agriculture

AGRICULTURAL EDUCATION MAJOR — SECONDARY TEACHING CERTIFICATE

<i>General Studies Requirements</i>	46-47
GSA 106, 115	6
GSB 212 or 300, and 202	6-7
GSD 101, 107, 118, 153	12
GSE 201 and two hours of physical education activity courses	4
<i>Requirements for Major in Agricultural Education</i>	40
Agribusiness Economics	3
Agricultural mechanization courses	3
Agricultural Education and Mechanization 311a, b and one of the following: 364, 411, 414	7
Animal Industries	3
Plant and Soil Science	3
Specialty in Agriculture and agriculture electives	21
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Electives</i>	8-9
<i>Total</i>	120

Agricultural Education Major — Joint Certification in Agricultural Education and Special Education

A request has been made to the State Board of Education for approval for joint certification in agricultural education and special education. A student may complete an emphasis in special education by completing from six to twelve hours in special education, without satisfying joint certification requirements. Interested students should see an academic advisor.

<i>General Studies Requirements</i>	46-47
GSA 106, 115.....	6
GSB 212 or 300 or 301 and 202.....	6-7
GSD 101, 107, 118, 153	12
GSE 201 and two hours of physical education activity courses.....	4
<i>Requirements for Major in Agricultural Education</i>	40
Agribusiness Economics.....	3
Agricultural mechanization courses.....	3
Agricultural Education and Mechanization 311a, b and one of the following: 364, 411, 414	7
Animal Industries	3
Plant and Soil Science.....	3
Specialty in Agriculture and agriculture electives.....	21
<i>Requirements in Special Education</i>	23-24
Special Education 400, 401 or 402 or 404, 414, 417 or 418, 419, 430, Psychology 301, Guidance and Educational Psychology 412 or Psychology 431	31
<i>Professional Education Requirements</i>	31
Education 201, 301, 302, 303, 304c, 312-3, 400-8, 401-8 400 and 401 must include eight hours of student teaching in agricul- tural education and eight hours in special education. See Teacher Education Program, page 63.	
<i>Total</i>	140-142

BUSINESS EDUCATION (Major)

The business education major offers specializations to prepare persons for teaching, supervisory, and leadership roles in secondary schools, private business schools, colleges, and industry in the areas of vocational and pre-vocational business education, and in-service training. Students selecting the secondary certification option may select one of the following teaching areas: office education, accounting, data processing, general business/consumer education, and marketing. Students who wish to obtain joint certification in business education and special education must complete that specialization. Those selecting the non-certification specializations may select from these areas: office, accounting, data processing, marketing, and management. The Capstone program, explained in Chapter 3, is available to qualified majors in business education.

Bachelor of Science Degree, College of Education

BUSINESS EDUCATION MAJOR — SECONDARY TEACHING CERTIFICATE

<i>General Studies Requirements</i>	45
Including GSB 202, 211 or Economics 214, 212 or 300 or 301, 305, GSD 101, 117, 118, or 119, and one additional English course, GSE 201, 2 hours of physical education activity courses	

<i>Requirements for Major in Business Education</i>	50
Accounting 220	3
Administrative Sciences 170 or 304	3
Secretarial and Office Specialties 101a	3
Vocational Education Studies 210, 302, 306, 398b-1	9
Preparation in one of the following business teaching areas:	
Accounting	
Vocational Education Studies 314	
Accounting 230, 321, 322, 331, 341	
Electronic Data Processing 217 or Computer Science 212	
Plus either two supplemental teaching areas or one	
supplemental teaching area and completion of	
vocational program coordination requirements	
Data Processing	
Vocational Education Studies 412	
Electronic Data Processing 102	
Two of the following: Electronic Data Processing 201, 204,	
206, 217 or Computer Science 212	
Plus either two supplemental teaching areas or one	
supplemental teaching area and completion of	
vocational program coordination requirements	
General Business and Consumer Education	
Vocational Education Studies 480	
Administrative Sciences 350	
Marketing 304, 363	
Economics 215	
Finance 271 or 370	
Family Economics and Management 340, 341	
Plus either two supplemental teaching areas or one	
supplemental teaching area and completion of	
vocational program coordination requirements	
Marketing	
Vocational Education Studies 415, 418	
Marketing 304, 305, 363, 401, 438, 463	
Finance 271 or 370	
Plus one supplemental teaching area and completion of	
vocational program coordination requirements	
Office	
Vocational Education Studies 311, 313, 404	
Secretarial and Office Specialties 101d, 106, 107, 109, 233,	
230	
Plus either three supplemental teaching areas or two	
supplemental teaching areas and completion of	
vocational program coordination requirements	
<i>Professional Education Requirements</i>	25
See Teacher Education Program, page 63.	
<i>Total</i>	120

Supplemental Teaching Areas in Business Education:

1. Accounting and Bookkeeping: Accounting 230, Vocational Education Studies 314.
2. Data Processing: Vocational Education Studies 412, Electronic Data Processing 102, one of the following: Electronic Data Processing 201, 204, 206, 217 or Computer Science 212.

- 3. General Business/Consumer Education: Vocational Education Studies 480 and two of the following: Family Economics and Management 340, 341, GSB 346.
- 4. Business Law: Vocational Education Studies 480, Finance 271, 370.
- 5. Marketing: Vocational Education Studies 415, 418, Marketing 304, 438.
- 6. Shorthand and Transcription: Vocational Education Studies 304, 312.
- 7. Typewriting: Secretarial and Office Specialties 101d, Vocational Education Studies 311.

VOCATIONAL PROGRAM TEACHING REQUIREMENTS

Vocational Education Studies 411, 472, and 473 plus the equivalent of one year of work experience from Vocational Education Studies 258 or 395.

Credit from Vocational Education Studies 258 or 259 may be used in lieu of the business education requirements, except Vocational Education Studies 311, 312, 313, 314, 412, 418, and 480.

The city of Chicago has requirements that differ from those presented in this bulletin. Copies of these requirements may be obtained from the business education office, 133 General Classroom Building.

BUSINESS EDUCATION MAJOR — JOINT CERTIFICATION IN BUSINESS EDUCATION AND SPECIAL EDUCATION

A request has been made to the State Board of Education for approval for joint certification in business education and special education. A student may complete an emphasis in special education by completing from six to twelve hours in special education, without satisfying joint certification requirements. Interested students should see an academic adviser.

General Studies Requirements 45
Including GSB 202, 211 or Economics 214, 212 or 300 or 301, 305,
GSD 101, 117, 118, or 119, and one additional English course, GSE
201, 2 hours of physical education activity courses

Requirements for Major in Business Education 44
Accounting 220 3
Administrative Sciences 170 or 304. 3
Secretarial and Office Specialties 101a 3
Vocational Education Studies 210, 302, 306, 398b-1 9

Preparation in one of the following business teaching areas:

Accounting

Vocational Education Studies 314
Accounting 230, 321, 322, 331, 341
Electronic Data Processing 217 or Computer Science 212
Plus one supplemental teaching area.

Data Processing

Vocational Education Studies 412
Electronic Data Processing 102
Two of the following: Electronic Data Processing 201, 204,
206, 217 or Computer Science 212
Plus one supplemental teaching area.

General Business and Consumer Education

Vocational Education Studies 480
Administrative Sciences 350
Marketing 304, 363
Economics 215
Finance 271 or 370
Family Economics and Management 340, 341
Plus one supplemental teaching area.

Marketing

Vocational Education Studies 415, 418

Marketing 304, 305, 363, 401, 438, 463

Finance 271 or 370

Plus completion of vocational program coordination requirements.

Office

Vocational Education Studies 311, 313, 404

Secretarial and Office Specialties 101d, 106, 107, 109, 233, 230

Plus two supplemental teaching areas.

Requirements in Special Education 21-23

Special Education 400, 401 or 402 or 404, 414, 417 or 418, 419, 430,

Psychology 301, Guidance and Educational Psychology 412 or

Psychology 431

Professional Education Requirements 31

Education 201, 301, 302, 303, 304b, 312-3, 400-8, 401-8

400 and 401 must include eight hours of student teaching in business education and eight hours in special education.

See Teacher Education Program, page 63.

Total 141-143**BUSINESS EDUCATION MAJOR — NON-CERTIFICATION BUSINESS OCCUPATIONS TEACHING***General Studies Requirements* 45

Including GSB 305, Economics 214 or GSB 211

Requirements for Major in Business Education 75

Accounting 220 and 230 6

Administrative Sciences 304 3

Marketing 304 3

Economics 215 3

Finance 271 3

Secretarial and Office Specialties 101a 3

Vocational Education Studies 210, 302, 306, 495b-3 11

Vocational Education Studies 395, 460, 466, 472, 474, 480, 484 20-28

Plus completion of courses in one of the following areas:

Office

Vocational Education Studies 304, 404, and two of the following: 311, 312, 313

Secretarial and Office Specialties 101d, 102d, 106, 107, 109, 230

Accounting

Accounting 321, 322, 331, 341, 361 or 471

Vocational Education Studies 314

Electronic Data Processing 217 or Computer Science 212

Data Processing

Electronic Data Processing 102, 104, 205, and two of the following: 201, 204, 206, 217 or Computer Science 212

Vocational Education Studies 412

Marketing

Finance 370

Marketing 363, 438, 401

One of the following: Marketing 305, Family Economics and Management 340, GSB 346

Vocational Education Studies 415 and 418
Management
Administrative Sciences 341, 350, 385, 431
Marketing 363, 401
Vocational Education Studies 480 or 415 and 418

Total	120
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Credit from Vocational Education Studies 258 or 259 may be used in lieu of the business education requirements.

Minor

A minor in business education consists of a minimum of 20 hours. Minors are planned for each student individually by the student and the adviser.

HOME ECONOMICS EDUCATION (Major, Courses)

Programs are designed to prepare home economics teachers and home economics extension advisers with various specializations. Both general home economics education and vocational home economics teachers are prepared. Three specializations are offered. Students who wish to obtain joint certification in home economics and special education must complete that specialization. The Capstone program is available to qualified majors in home economics education. The Capstone program is explained in chapter 3.

Bachelor of Science Degree, College of Education

HOME ECONOMICS EDUCATION MAJOR — TEACHING VOCATIONAL HOME ECONOMICS SPECIALIZATION

This program prepares students to teach consumer education, homemaking as an occupation, and occupational home economics in schools operating under the provisions of the federal vocational education legislation.

General Studies Requirements	46
Including GSB 202, 203, 212 or 300 or 301; GSC 101; GSD 101, 117 or 118; 153, 107, or 112 and 113; GSE 201; 2 hours of physical education activity courses	
Requirements for Major in Home Economics Education.....	49
Chemistry 140a.....	(4)
Child and Family 227, 237, 345, 366, Elective course-3	15
Clothing and Textiles 127, 304, 314a	9
Family Economics and Management 320, 330, 340 or GSB 346, 350, 351	13
Food and Nutrition 100, 156, 335.....	8
Interior Design 131	4
Professional Education Requirements	33
See Teacher Education Program, page 63	25
Vocational Education Studies 320, 322, 323	8
Total	128

Credit from Vocational Education Studies 258 or 259 may be substituted for six semester hours in each of two areas (Child and Family, Clothing and Textiles, Family Economics and Management, Food and Nutrition) of the home economics requirements. There is no substitution for Child and Family 227, 237, 366, Family Economics and Management 340, Food and Nutrition 100, or Interior Design 131.

HOME ECONOMICS EDUCATION MAJOR — TEACHING VOCATIONAL HOME ECONOMICS SPECIALIZATION — JOINT CERTIFICATION IN HOME ECONOMICS EDUCATION AND SPECIAL EDUCATION

A request has been made to the State Board of Education for approval for joint certification in home economics education and special education. A student may complete an emphasis in special education by completing from six to twelve hours in special education without satisfying joint certification requirements. Interested students should see an academic adviser.

<i>General Studies Requirements</i>	46
Including GSB 202, 203, 212 or 300 or 301; GSC 101; GSD 101, 117 or 118, 153, 107 or 112 and 113; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Home Economics Education</i>	35
Chemistry 140a. (4)	6
Child and Family 227, 237	6
Clothing and Textiles 127, 314a.	5
Family Economics and Management 340, 350.	6
Food and Nutrition 100, 156, 335	8
Interior Design 131.	4
Vocational Education Studies 431, 464.	6
<i>Requirements in Special Education</i>	21-23
Special Education 400, 401 or 402 or 404, 414, 417 or 418, 419, 430, Psychology 301, Guidance and Educational Psychology 412 or Psychology 431	
<i>Professional Education Requirements</i>	39
Education 201, 301, 302, 303, 304c, 312-3, 350, 400-8, 401-8.	31
400 and 401 must include eight hours of student teaching in home economics education and eight hours in special education.	
See Teacher Education Program, page 63.	
Vocational Education Studies 320, 322, 323.	8
<i>Total</i>	141-143

HOME ECONOMICS EDUCATION MAJOR — EXTENSION SPECIALIZATION

This program prepares students for positions as home advisers, 4-H advisers, and with further training, extension specialists.

<i>General Studies Requirements</i>	46
Including GSB 202, 203, 212 or 300 or 301; GSC 101; GSD 101, 117 or 118, 153, 107 or 112 and 113; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Home Economics Education</i>	70
Chemistry 140a,b. (4) + 4	9
Child and Family 227, 237, 345	11
Clothing and Textiles 127, 150, 304, 314a	13
Family Economics and Management 320, 330, 340, 350, 351.	11
Food and Nutrition 100, 156, 256, 335	12
Vocational Education Studies 320, 324, 325, 431	4
Interior Design 131.	3
Journalism 340 or substitute	3
Speech Communication 221	3
<i>Electives</i>	3
<i>Total</i>	120

HOME ECONOMICS EDUCATION MAJOR — EDUCATIONAL SERVICES SPECIALIZATION

This program prepares students for positions in agencies and businesses which provide educational services. Such tasks as developing informational materials, working with individual customers or clients, coordinating conferences and demonstrating products might be included in the job description for such positions.

<i>General Studies Requirements</i>	45
Including GSB 202, 203, 211 or 212, GSC 101	
<i>Requirements for Major in Home Economics Education</i>	54
Child and Family 227 (or GSB 206), 237	6
Clothing and Textiles 127 or 150, 104 or 304	5
Family Economics and Management 331, 350, 340 or GSB 346.....	9
Vocational Education Studies 320 or 119, 321, 384, 431, 497c	15
Restricted Electives	19
To be selected from the following:	
Child and Family 337, 366	
Clothing and Textiles 314a and b, 343, 351, 352	
Family Economics and Management 320, 330, 480	
Food and Nutrition 156, 256, 335, 356	
Interior Design 131	
Vocational Education Studies 302, 398c, 433, 464, 474, 490c, 494c	
<i>Electives</i>	21
<i>Total</i>	120

OCCUPATIONAL EDUCATION (Major, Courses)

Programs are designed to prepare persons for teaching, supervisory, and leadership roles in schools, colleges, military, and industry. Students are made aware of and become knowledgeable about roles, relationships, and expertise in a variety of educational agencies and occupational subject areas. Five specializations are offered. Students who wish to obtain joint certification in occupational education with specialization in industrial arts or trades and industries and special education must complete that specialization.

Bachelor of Science Degree, College of Education

The Capstone program is available to qualified majors in occupational education. The capstone program is explained in chapter 3.

OCCUPATIONAL EDUCATION MAJOR — PREOCCUPATIONAL TEACHING SPECIALIZATIONS, INCLUDING INDUSTRIAL ARTS EMPHASIS (SECONDARY TEACHING CERTIFICATE)

Preoccupational teaching encompasses a broad area of study of industry and related areas in elementary and secondary schools. It involves study in a broad area of industrial skills and technology. Students may select a minor area of specialization that will prepare them for teaching orientation and exploration of the world of work through the study of occupational clusters and analyses of occupations; for conducting cooperative education programs; for providing career education; for becoming specialized industrial teachers; for working with specialized populations; and for other specialized programs designed by the student and approved by the academic adviser.

<i>General Studies Requirements</i>	46
Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 153, GSD Mathematics; GSE 201; 2 hours of physical education activity courses	

<i>Requirements for Major in Occupational Education</i>	41
Requirement in Laboratory Experiences	24
Vocational Education Studies 366, 370	7
Electives in four industrial arts areas	17
Requirements in Approved Areas of Specialization	17
Vocational Education Studies 362	3
Electives in specialization	14
<i>Professional Education Requirements</i>	34
See Teacher Education Program, page 63	25
Education 304e required.	
Vocational Education Studies 462d, 466, 478	9
<i>Total</i>	121

OCCUPATIONAL EDUCATION MAJOR — PREOCCUPATIONAL TEACHING
SPECIALIZATIONS, INCLUDING INDUSTRIAL ARTS EMPHASIS — JOINT CERTIFICATION
IN OCCUPATIONAL EDUCATION AND SPECIAL EDUCATION.

A request has been made to the State Board of Education for approval for joint certification in occupational education and special education. A student may complete an emphasis in special education by completing from six to twelve hours in special education, without satisfying joint certification requirements. Interested students should see an academic adviser.

<i>General Studies Requirements</i>	46
Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 153, GSD Mathematics; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Occupational Education</i>	38
Requirements in Laboratory Experiences	24
Vocational Education Studies 366, 370	7
Electives in four industrial arts areas	17
Requirements in Approved Areas of Specialization	14
Vocational Education Studies 362	3
Electives in specialization	11
<i>Requirements in Special Education</i>	21-23
Special Education 400, 401 or 402 or 404, 414, 417 or 418, 419, 430, Psychology 301, Guidance and Educational Psychology 412 or Psychology 431	
<i>Professional Education Requirements</i>	37
Education 201, 301, 302, 303, 304b, 312-3, 350, 400-8, 401-8 400 and 401 must include eight hours of student teaching in occupa- tional education and eight hours in special education. See Teacher Education Program, page 63.	
<i>Total</i>	142-144

OCCUPATIONAL EDUCATION MAJOR — TRADES AND INDUSTRIES TEACHING
SPECIALIZATION, OCCUPATIONAL EMPHASIS (SECONDARY TEACHING CERTIFICATE)

Trades and industries teaching concerns specialized instruction in a wide variety of vocational-technical occupations including industrial-oriented, and other occupations. In addition to being certificated to teach in secondary high schools or vocational schools, graduates may also teach in industry, private schools and community junior colleges.

<i>General Studies Requirements</i>	45
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Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 152, GSD Mathematics; GSE 201; 2 hours of physical education activity courses

<i>Requirements for Major in Occupational Education</i>	41
Vocational Education Studies 395 ¹	16
Vocational Education Studies 258 and/or 259	25
<i>Professional Education Requirements</i>	34
See Teacher Education Program, page 63	25
(Must include Education 304b)	
Vocational Education Studies 460d, 462d, 466	9
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<i>Total</i>	120

OCCUPATIONAL EDUCATION MAJOR — TRADES AND INDUSTRIES TEACHING
SPECIALIZATION, OCCUPATIONAL EMPHASIS — JOINT CERTIFICATION IN
OCCUPATIONAL EDUCATION AND SPECIAL EDUCATION

A request has been made to the State Board of Education for approval for joint certification in occupational education and special education. A student may complete an emphasis in special education by completing from six to twelve hours in special education, without satisfying joint certification requirements. Interested students should see an academic adviser.

<i>General Studies Requirements</i>	45
Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 152, GSD Mathematics; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Occupational Education</i>	35
Vocational Education Studies 395d ¹	16
Vocational Education Studies 258 and/or 259	19
<i>Requirements in Special Education</i>	21-23
Special Education 400, 401 or 402 or 404, 414, 417 or 418, 419, 430, Psychology 301, Guidance and Educational Psychology 412 or Psychology 431	
<i>Professional Education Requirements</i>	40
Education 201, 301, 302, 303, 304, 312-3, 350, 400-8, 401-8 400 and 401 must include eight hours of student teaching in occupational education and eight hours in special education See Teacher Education Program, page 63.	
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<i>Total</i>	141-143

OCCUPATIONAL EDUCATION MAJOR — OCCUPATIONAL TEACHING SPECIALIZATION
(POST-SECONDARY TEACHING)

Occupational teaching involves instructing youth and adults in a highly skilled or technical area such as electronics, automotives, aviation, commercial art, cosmetology, or others, which require an advanced knowledge of applications in a defined line of endeavor.

<i>General Studies Requirements</i>	45
Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 152, GSD Mathematics; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Occupational Education</i>	75
Vocational Education Studies 258, 259, 395 ¹ , 460d, 462d, 466, 472, 495	66

College of Education electives.	9
To include 3 semester hours in courses outside the Department of Vocational Education Studies	
<i>Total</i>	120
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OCCUPATIONAL EDUCATION MAJOR — HEALTH OCCUPATIONS TEACHING SPECIALIZATION — SECONDARY TEACHING CERTIFICATE	
The health occupations teaching specialization (secondary teaching) prepares persons with allied health and nursing specialty backgrounds for teaching, supervisory, and leadership roles in health occupations education in secondary schools. In addition to receiving the secondary school certification, persons completing this program are qualified to teach in vocational schools, industry, private schools, and community colleges.	
<i>General Studies Requirements</i>	45
Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 152, GSD Mathematics; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Occupational Education</i>	41
Vocational Education Studies 395 ¹	16
Vocational Education Studies 258/259.	25
<i>Professional Education Requirements</i>	34
Education 304b required.	
See Teacher Education Program, page 63	25
Vocational Education Studies 460e, 462e, 466	9
<i>Total</i>	120
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OCCUPATIONAL EDUCATION MAJOR — HEALTH OCCUPATIONS TEACHING SPECIALIZATION — JOINT CERTIFICATION IN OCCUPATIONAL EDUCATION AND SPECIAL EDUCATION	
A request has been made to the State Board of Education for approval for joint certification in occupational education and special education. A student may complete an emphasis in special education by completing from six to twelve hours in special education without satisfying joint certification requirements. Interested students should see an academic adviser.	
<i>General Studies Requirements</i>	45
Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 152, GSD Mathematics; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Occupational Education</i>	35
Vocational Education Studies 395e ¹	16
Vocational Education Studies 258/259.	19
<i>Requirements in Special Education</i>	21-23
Special Education 400, 401 or 402 or 404, 414, 417 or 418, 419, 430, Psychology 301, Guidance and Educational Psychology 421 or Psychology 431	
<i>Professional Education Requirements</i>	40
Education 201, 301, 302, 303, 304b, 312-3, 350, 400-8, 401-8	31
400 and 401 must include eight hours of student teaching in occupational education and eight hours in special education	
Vocational Education Studies 460e, 462e, 466.	9
See Teacher Education Program, page 63.	
<i>Total</i>	141-143

OCCUPATIONAL EDUCATION MAJOR — HEALTH OCCUPATIONS TEACHING
SPECIALIZATION (POST-SECONDARY TEACHING)

The health occupations teaching specialization (post-secondary teaching) prepares persons for instructing in highly skilled and technical health occupations education such as dental hygiene, medical laboratory technology, preprofessional nursing programs, radiological technology, and others which require advanced knowledge or application in a defined health field. Persons completing the post-secondary health occupations teaching specialization are qualified to teach in community colleges, private schools, and industrial settings.

<i>General Studies Requirements</i>	45
Including GSA 101, 106; GSB 212 or 300 or 301 and 202; GSD 101, 117, 152, GSD Mathematics; GSE 201; 2 hours of physical education activity courses	
<i>Requirements for Major in Occupational Education</i>	75
Vocational Education Studies 395e, 460e, 466, 495e	26
Vocational Education Studies 258/259	40
College of Education electives	9
To include three semester hours in courses outside the Department of Vocational Education Studies	
<i>Total</i>	120

¹Students with two or more years of documented, appropriate work experience are not required to take 395.

Courses

- 119-1 Home Economics Careers.** (Same as Human Resources 111.) An introduction to career opportunities in the broad fields of home economics and related occupations.
- 210-2 Introduction to Business Education.** An introduction to teaching in business education programs in secondary schools, vocational schools, community colleges, and educational programs in businesses. Emphasis is on curriculum structures, philosophical bases, instructional materials and media, student characteristics, employment requirements, and career opportunities.
- 257-1 to 30 Work Experience.** Credit for on-campus work experience through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Prerequisite: consent of program coordinator. Mandatory Pass/Fail.
- 258-2 to 30 Occupational Experience.** Credit for documented experience in a teachable occupation or family of occupations. Prerequisite: 12 hours of *C* or better at Southern Illinois University.
- 259-2 to 48 Occupational Subjects.** Credit for documented occupational study in accredited and selected other programs. Prerequisite: 12 hours of *C* or better at Southern Illinois University.
- 302-3 Communications in Business.** Principles and practice in written and oral business communications. Included is the development of ability to use words and correct grammatical construction in oral and written business expression; the learning of the principles of planning, organizing, writing, and summarizing effective communications; and the refinement of listening skills.
- 304-3 Analysis of Alternative Shorthand Systems.** Development of high-level dictation and transcription skills and knowledges in one shorthand system; the learning of the theory of one or more additional shorthand systems, either alphabetic or symbolic. Prerequisite: Secretarial and Office Specialties 102d or 103d or equivalent.
- 306-3 Introduction to Data Processing.** Emphasis on operation of keypunch machine, vocabulary development, unit record equipment, concepts of programming, fundamentals of computer mathematics and applications, and flow charting.
- 311-3 Teaching Typewriting.** Review of typewriting technique, skill, and knowledges. Methods of instruction, skill-building principles and techniques, selection and preparation of instructional materials, review of course content, standards of achievement, and evaluation of pupil performance. Prerequisite: Secretarial and Office Specialties 101d or equivalent.
- 312-2 Teaching Shorthand and Transcription.** Methods of instruction, skill-building principles and techniques, selection and preparation of instructional materials, review of course content, standards of achievement, and evaluation of pupil performance. Prerequisite: 304 or equivalent.

313-3 Teaching Office Procedures and Machines. Review of skills and knowledge pertaining to office procedures and machines; instructional methods and materials for and the evaluation of pupil performance in office practice, clerical practice, and office machines. Prerequisite: 404 or equivalent.

314-2 Teaching Bookkeeping and Accounting. Teaching procedures, instructional materials, and evaluation of pupil progress in bookkeeping and accounting; instruction and practice in operations taught in high school and college bookkeeping-accounting classes. Prerequisite: 210 or equivalent.

320-1 Home Economics as a Profession. A social, psychological, and philosophical interpretation of home economics in today's world. Overview of career areas and the practice of the dual role of homemaker-professional worker.

321-2 Methods of Teaching for Non-Teaching Majors. Educational principles for use in situations mostly outside of the formal classroom. Selection and organization of materials. Practice in using a variety of techniques and teaching aids.

322-4 Methods and Curriculum in Home Economics. The total home economics program. Curriculum planning for the course and the unit. Teaching methods especially suitable for home economics classes. Teaching aids and materials. Evaluation of instruction. Managing the business of the department. Possible expense for materials for teaching experiences: \$5. Prerequisite: Basic professional block in education, eight semester hours.

323-3 Introduction to Home Economics Related Occupational Programs. Organization and operation of occupational home economics programs. Use of instructional materials. Supervised work experiences. Field trips. Prerequisite: Education 302.

324-4 History, Development and Principles of Extension Work. The history and philosophy of cooperative extension. Principles and practice of organizing and administering extension work in home economics. Offered alternate years. Transportation expense for field trips: approximately \$5.

325-4 Field Experience. Six weeks of observing and assisting a county home economics extension adviser. Supervised experiences in various phases of extension work. Student must provide for own living and travel expenses. Prerequisite: 324.

326-2 Practicum-Home and Family Life Education. Provides pre-service home economics teachers and home economics extension advisers experiences in observing and working with families with respect to problems, needs, and values as a basis for more effective teaching.

327-3 Home Economics for Men (and Women). A survey of the areas of home economics; child care and personal, family, and community relations; economics and management of personal and family resources; food, nutrition, clothing selection and buying; financial management, consumer education; and protection. Emphasis on life skills as reflected in needs of students. Field trip and practicum experiences. Cost: \$2 for supplies.

360-15 (3, 3, 3, 3, 3) Vocational, Occupational, and Career Simulation Clusters Studies. Vocational, occupational, and careers simulation and gaming activities. Occupational orientation and exploration. Community laboratory films and other methods. Team teaching also used.

362-3 Vocational, Occupational, and Career Orientation and Exploration. Introduction to orientation and exploration activities for vocational, occupational, and career education programs at the junior high and early senior high school levels. Career development processes are examined.

364-3 Leadership of Youth and Peer Groups. (Same as Agricultural Education and Mechanization 364.) Identification and discussion of the role of organizations, both structured and unstructured. Identification and development of qualities of leadership.

366-4 Multi-Activity Laboratory. Participation in designing instructional programs for multiple activity industrial arts laboratory or shops and performing the shop tasks. It includes such methods or approaches as project, exercises, mass production, enterprise, American industries, career orientation, world of construction, and others. Prerequisite: 15 hours shop or laboratory credits.

368-3 Construction Methods for Primary Teachers. Various media such as wood, metal, and paper. Acquainting the primary teacher with the materials, tools, and processes which students at the primary level can manipulate and use in the classroom. Laboratory.

370-3 Diversified Crafts for Teachers and Recreation Leaders. Experience in constructional activities involving the use of wood, metals, leathers, plastics, reed, raffia, clay, and other materials adaptable to the needs and interests of camp counselors and elementary school leaders. Laboratory.

384-3 Adult Education in Vocational, Occupational, and Career Education. Planning and preparing for adult education programs. Includes review of characteristics of clientele, financial support, program development.

395-1 to 24 Occupational Internship. Special educational activities are based upon required occupational skills and knowledges and are related to each student's academic program and career objective. May include independent study. Hours and credit arranged by coordinator. (a) Agricultural education. (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education. Prerequisite: consent of coordinator and employment in a University-approved position.

398-1 to 3 Special Problems. Independent study for qualified students. (a) Agricultural education. (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education. Prerequisite: consent of instructor.

402-3 Introduction to Office Information Systems. An introduction to the integrated office concept investigating the functions of data processing, records management, electronic mail, word processing, and reprographics.

403-3 Microform Systems. An introduction to the use of microforms in the management of information flow. Emphasis is placed on analysis of application, effectiveness, and cost of available microform systems, techniques, and equipment. Not for graduate credit.

404-3 Analysis of Office Systems. An investigation of procedures and systems used in various types of offices, including a study of work flow, the processing of words, office personnel and their responsibilities, and the role of office functions in the total business society.

405-3 Office Management. Principles of management applied to office problems. Emphasis on the role of the office in business management; office organization; physical facilities and layout of office; office services, procedures, standards, and controls; records management.

407-3 Records Administration. An introduction to methods and systems of controlling, storing, retrieving, and disposing of records. Application of principles of records administration to medical, legal, educational, industrial, and governmental records. Techniques needed to design and implement an operationally efficient records management program. Prerequisite: 403.

410-2 Principles and Problems of Business Education. A study of the fundamentals of business education; its relation to business, to general education, and to vocational and career education; its history, current status, and trends; special emphasis on objectives and curriculum problems.

411-2 Teaching Classes Related to Experiential Business Education. For those who plan to become teacher-coordinators of vocational cooperative education programs. Emphasis is placed upon the construction and presentation of subject matter and materials used to teach basic marketable skills to secondary and post-secondary students. Prerequisite: 210.

412-2 Teaching Data Processing. Instructional methods and materials for and the evaluation of pupil progress in data processing. Prerequisite: 306 or Electronic Data Processing 101 or equivalent.

415-3 Curriculum and Materials in Marketing Education. A study and application of principles of curriculum development and curriculum materials for high school, adult, and post-secondary programs in marketing and distributive education. Prerequisite: Marketing 304, 363, and 401.

418-3 Teaching Marketing/Distributive Education. For those who plan to become teacher-coordinators of programs in marketing and distributive education. Emphasis is on instructional methods, facilities, student organizations (DECA), operating school stores, and project plans. Prerequisite: 415.

428-3 Home Economics for Elementary Teachers. Identification and development of meaningful home economics related experiences appropriate for various levels of elementary curriculum. Interpretation of current vocational education legislation and trends affecting elementary programs.

431-3 Demonstration and Laboratory Techniques in Home Economics Education. Practice in planning and carrying out instructional demonstrations in home economics for youth and adults. Use of audiovisual aids and hand-outs. Procedures for laboratory and guided practice to develop psychomotor skills. Attention given to TV presentations. Possible expense for materials to use in classroom demonstrations \$5 to \$8.

433-3 Women and the Politics of Education. Ways of organizing to implement legislation for social needs. How to have input into decisions which affect the educational community — reimbursement, grants, funding. The need, impact, and opportunity for careers in public service as these relate to individual, family, and societal needs. Field trips.

460-3 Occupational Analysis and Curriculum Development. The first of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Includes analyzing occupations and jobs, specifying objectives, and developing curriculum. (b) Business education. (d) Industrial education. (e) Health occupations education.

462-3 Teaching Methods and Materials. The second of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Concerned with instructional methods and materials unique to vocational and occupational education. (d) Industrial education. (e) Health occupations education.

463-3 Assessing Vocational Student Progress. Development and use of evaluation instruments to assess occupational student growth. Use of systems approach to course design, criterion-referenced and norm-referenced objectives, and four taxonomies of educational objectives in development of written tests, laboratory and work station performance tests, and attitude measures. Data are used for evaluation of student progress and program modification. Prerequisite: 460.

464-3 Special Needs Learners and Work Education. Theoretical and applied concepts in

teaching special needs learners. Affective aspects of learning are emphasized. Curricula and teaching materials are examined and prepared. Field trips.

466-3 Principles and Philosophies of Vocational Education. Historical and philosophical foundations of vocational education. The nature and role of vocational education in preparing people for the world of work.

468-3 Education/Labor Force Linkages. Examines education/labor linkages. Particular attention given to the following areas: overcoming barriers to the linkage process; developing effective lines of communication; resource sharing; conducting joint problem solving with other agencies and individuals within the community; and jointly developing and providing programs and services.

472-3 Organizing Cooperative Vocational Education. Introduction to cooperative vocational education including history, rationale, legislative basis, and goals and objectives. Investigation into the competencies required for developing programs, public relations, and evaluation of cooperative vocational education. Introduction of student selection and management of cooperative vocational education. Fulfills three semester hours of the six required for State of Illinois certification.

473-3 Coordinating Cooperative Vocational Education. Overview of cooperative vocational education. Investigation into the competencies required for the establishment, implementation, and coordination of cooperative vocational education to include selection, and maintenance of training stations, student placement, related instruction in cooperative vocational education, and the management of cooperative vocational education programs. Fulfills the remaining three semester hours of the six required for State of Illinois certification. Prerequisite: 472.

474-3 Individualized Vocational Instruction. Study of the theory, characteristics, appropriateness, and evaluation techniques of individualized programs. Will include a review of the current state of individualized instruction in education for work programs.

478-3 Contemporary Principles and Management of IA Programs. Study of contemporary approaches to the teaching of industrial arts including objective philosophies, advantages, and disadvantages; shop or laboratory design and organization; and the management of programs in shops or laboratories. Not for graduate credit. Prerequisite: junior standing.

480-3 Teaching Consumer Education. Principles of teaching consumer education in all settings. Emphasis on meeting state requirements for teachers of consumer education in Illinois. Selection and study of course content; preparation of instructional materials; organization and arrangement of units of study; and planning and evaluation program.

484-3 Adult Vocational and Technical Education. A study of adult vocational and technical education as offered in a variety of educational settings. Major topics include organization, funding, teaching, student characteristics, and evaluation. Prerequisite: consent of adviser.

486-3 (1,1,1) Post-Secondary Vocational-Technical Teaching. Contemporary approaches to teaching vocational-technical education in post-secondary institutions and agencies. (a) Orientation to and preparation for teaching occupations. (b) Situations and issues which arise in professional education sessions. (c) Interpersonal relations in teaching and other educational assignments. Not for graduate credit.

488-3 Initiating Vocational Student Placement and Follow-Up. Planning, implementing, and evaluating a school-based placement system for secondary and post-secondary vocational, technical, and adult education students.

489-3 Developing Vocational Student Placement and Follow-Up. Developing and using internal and external resources in a functioning placement and follow-up program. Prerequisite: 488.

490-1 to 4 Readings. Supervised reading for qualified students. May include independent study. (a) Agricultural education. (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education. Prerequisite: consent of instructor and program coordinator.

491-1 to 5 Advanced Occupational Skills. Modern occupational practice in selected fields. For experienced professionals seeking advanced techniques in specialized areas of vocational education. (a) Agricultural education (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education. Prerequisite: intermediate level study in the specialty.

494-1 to 4 Workshop. Study of current issues of importance to vocational, occupational, and career education teachers, supervisors, and administrators. Emphasis of each workshop will be identified in each workshop announcement. (a) Agricultural education. (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education.

495-2 to 12 Teaching Internship. Internship teaching in vocational programs in approved centers. The interning teacher will follow the program of the supervising teacher in both regular and extra-class activities. May include independent study. (a) Agricultural education. (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education. Prerequisite: 18 months full-time equivalent of documented or nine months full-time equivalent of supervised work experience or a combination.

496-2 to 12 Professional Internship. Research or curriculum development or program management at approved education or training sites. The intern will follow the program of the

supervising professional in regular and related activities. Not for graduate credit. Prerequisite: 18 months full-time equivalent of documented or nine months full-time equivalent of supervised work experience or a combination.

497-2 to 6 Practicum. Applications of vocational, occupational, and career education skills and knowledge. Cooperative arrangements with corporations and professional agencies to study under specialists. (a) Agricultural education. (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education. Prerequisite: twenty hours in specialty.

498-2 to 5 Special Problems. Assistance and guidance in the investigation and solution of vocational, occupational, or career education problems. May include independent study. (a) Agricultural education. (b) Business education. (c) Home economics education. (d) Industrial education. (e) Health occupations education. Prerequisite: consent of instructor and program coordinator.

511-2 Improvement of Instruction in Consumer and Basic Business Subjects.

512-2 Improvement of Instruction in Secretarial Subjects.

518-3 Home Economics Programs in the Schools.

520-3 Trends and Issues in Home Economics Education.

521-3 Advanced Methods of Teaching Home Economics.

561-3 Research Methods.

562-3 Legislation and Organization.

564-3 Program Evaluation for Work Education.

566-3 Administration and Supervision.

568-3 Facilities Planning.

572-3 Trends and Issues in Cooperative Vocational Education.

574-3 Occupational Information.

576-6 (3, 3) Policy Implementation and Supervision.

578-3 Programs in Diverse Settings.

580-3 Characteristics of Clientele.

584-3 Curriculum Foundations for Work Education.

586-3 Adult Vocational Programs.

588-3 Performance-Based Professional Development.

590-1 to 9 (1 to 3 per topic) Readings.

591-1 to 9 New Developments.

592-1 to 6 Recent Research.

593-1 to 3 Individualized Research.

594-3 Advanced Research Methods.

595-1 to 16 Professional Internship.

598-1 to 6 Special Investigations.

599-1 to 6 Thesis.

600-1 to 36 Dissertation.

601-1 to 12 per semester Continuing Research.

Women's Studies (Minor)

A women's studies minor is interdisciplinary and designed to enrich and extend a student's major field of study by sharing insights gained from the study of women or women's issues. Course work can be selected to reflect individual student interests and enhance the major by contributing knowledge, understanding, and sensitivities helpful to students in both the university and work settings.

Women's studies is an appropriate minor for many undergraduate majors as well as for students planning graduate or professional studies. For example, people's orientation toward their work may be affected by an historical understanding of the ways women have been treated by the courts, the health care professions, the educational system, employment, religion, literature, or the arts.

Because it is interdisciplinary, the women's studies minor should reflect academic work in both the arts and humanities and the natural and social sciences.

Minor

Minors must be approved by the coordinator of women's studies in order to assist students in developing a coherent program that meets their individual interests. The minor requires 18 semester hours of credit, 15 of which must be in women's studies courses, while the remaining 3 hours may be selected from a special interest or related course. The minor must include either 221 or 222 and 492. Students are

urged to discuss and plan their minors with the coordinator of women's studies or with a faculty member who teaches women's studies courses.

Courses

- 221-3 **The Sexes in the Modern World: The Social Science Perspective.** (See GSB 223)
 222-3 **Women and Men in the Modern World: Humanities.** (See GSC 222)
 263-3 **Greek Civilization.** (See GSC 231)
 286-3 **Marriage and Family Living.** (See Child and Family 227)
 325-3 **Women in Literature.** (See GSC 351)
 326-3 **Women in the Arts: The Politics of Sex.** (See Communications and Fine Arts 397, Section B)
 341-3 **Psychology of Women.** (See Psychology 333)
 346-3 **History of the American Family.** (See History 369)
 347-3 **Women in American History.** (See History 368)
 352-3 **Images of Women in French Literature.** (See French 300)
 364-3 **Classical Mythology.** (See GSC 330)
 427-3 **Women in the Visual Arts.** (See Art 457)
 454-3 to 6 **Topics in Women's Literature.** (See English 496)
 456-3 **Philosophical Perspectives on Women.** (See Philosophy 446)
 463-2 **Greek Literature in Translation.** (See Classics 405)
 490-1 to 4 **Readings.** Supervised readings in selected content areas of women's studies. Not for graduate credit. Prerequisite: consent of instructor and women's studies coordinator.
 491-1 to 4 **Special Topics.** Concentration on a topic of interest not offered through the regular course listings. Not for graduate credit. Prerequisite: consent of instructor and women's studies coordinator.
 492-3 **Senior Seminar.** A synthesizing experience required of seniors completing a minor in women's studies. Activity may include, but is not limited to, the preparation and presentation of a scholarly paper or the conduct of a research project. Not for graduate credit. Prerequisite: 221 or 222, senior standing, and consent of women's studies coordinator.
 493-2 to 4 **Individual Research.** Exploration of a research project under the supervision of a faculty member having graduate faculty status. The project must result in a written research report which is filed with the coordinator of women's studies. Not for graduate credit. Prerequisite: consent of instructor and coordinator of women's studies and senior standing.
 494-1 to 4 **Practicum.** Supervised practical experience in situations centering on women's issues, organizations, services, etc. The setting may be in one's own field of study or in the general content areas recognized in the women's studies program. Not for graduate credit. Prerequisite: consent of instructor and coordinator of women's studies.

Zoology (Department, Major, Courses)

A major in zoology is an appropriate beginning for those planning a career that includes teaching and research in zoology, conservation, fisheries management and wildlife management, environmental monitoring, or the practice of medicine, dentistry, and veterinary science.

Students majoring in zoology are required to develop an individualized curriculum by consulting with the director of undergraduate studies in zoology and an appropriate faculty member of the department. The curriculum must include: a year of chemistry or physics, one course in mathematics beyond the College of Science requirement or a course in computer science, Biology 305 and 307, Zoology 220a,b, 300 (or equivalent, i.e., Biology 309), Zoology 482, and at least 18 additional semester hours of electives in zoology.

Courses offered in the General Studies program will not be accepted as electives. A minimum of 37 semester hours of biology and zoology must be completed for the major.

Bachelor of Arts or Bachelor of Science Degree, College of Science

<i>General Studies Requirements</i>	45 ¹
<i>Supplementary College of Science Requirements</i>	11
Foreign Languages	(4)+4
Mathematics 110a,b or 111	(4)+1
Physical Science (Not General Studies)	6 ²

Requirements for Major in Zoology	40-44 ³
Biology 305, 307.....	6
Zoology 220a,b, 300 (or its equivalent), 482.....	13
Elective zoology courses	18
Chemistry or Physics (Not General Studies)	(6)+0-2 ⁴
A course in Mathematics (beyond Mathematics 110a,b or 111), or in Computer Science.....	3-5
Electives	20-24
<hr/>	
Total	120

³The 45 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Studies courses.
⁴May apply toward General Studies if approved substitutes are taken.
⁵Zoology requirements will satisfy biological science for the College of Science.
⁶Satisfies physical science requirements for the College of Science.

Bachelor of Science Degree, College of Education

Degrees taken in the College of Education must satisfy all requirements of that college for the Bachelor of Science degree. The requirements for the major in zoology are the same in both colleges, except that to meet teacher certification requirements a minor in botany is required. Curriculum, Instruction, and Media 468 is also required. College of Education professional education and other certification requirements may be found in the section of this catalog titled Curriculum, Instruction, and Media. See Teacher Education Program, page 63.

Minor

A minor in zoology consists of 20 hours, including 220a,b, and 482. Electives from zoology and the following areas may be used to complete the 20-hour minimum requirement: Biology 305, 306, 307, and 309; but no General Studies courses can be included.

Courses

- 118-4 Introductory Zoology.** An introduction to the basic concepts of animal life and its diversity, including the elements of cellular and organismic structure and function, reproduction, development, genetics, evolution, and ecology. Three lectures and one 2-hour laboratory per week. Offered Fall, Spring, and Summer terms. A cost of \$5 may be incurred by student.
- 212-2 Birding.** Bird watching for pleasure. Consideration of identification, songs and ecology of birds, information on bird organization, equipment, and techniques. Credit may not be used toward a major in zoology. Two lectures per week. Offered Fall term. Cost of \$5 to \$10 may be incurred by student.
- 220-8 (4, 4) Diversity of Animal Life.** Diversity and its taxonomic treatment in animals, emphasizing structure, function, life cycles, behavior, and phylogeny. (a) Invertebrates, (b) Vertebrates. Two lectures and two 2-hour laboratories per week. Need not be taken in a,b sequence. Fall, Spring, Summer. Prerequisite: 118 or strong background in high school biology recommended.
- 258-2 to 4 Work Experience.** Credit for prior experience directly related to a student's specialty in the field of zoology. The student must petition the department and provide documentation as may be necessary to assess and approve such credit. Available for elective credit only.
- 300-4 Vertebrate Embryology.** Main features of embryonic and fetal development from fish to humans. Two lectures and two 2-hour laboratories per week. Offered Fall and Spring terms. Prerequisite: 220b.
- 305-2 Genetics Laboratory.** Experimental methods in applying basic principles of genetics. Monogenic and digenic inheritance, sex-linkage, gene interaction, linkage and chromosome mapping, mutation, artificial and natural selection, gene frequencies, and genetic drift. Two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered Spring term. Prerequisite: Biology 305, or concurrent enrollment.
- 309-3 Elementary Cell Biology.** Introduction to structure, function, and natural history of major cell types. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.
- 314-3 Biology of Human Populations.** Examines in detail three aspects of the increasing

human population: its biological causes, its effects on the environment, and biological approaches for solving it. Three lectures per week. Offered Fall and Spring terms.

316-3 Insect Pests and Their Control. Classical and economic entomology including morphology, physiology, and taxonomy. Life history, damage, and control of principal injurious insects will be discussed. Two lectures and one 2-hour laboratory per week. Credit may not be used toward a major in zoology. Offered Fall term. Prerequisite: 118 or equivalent.

318-5 Comparative Vertebrate Anatomy. The structure of vertebrate organ systems. Two lectures and three 2-hour laboratories per week. Cost of \$5 to \$10 may be incurred by student. Offered Fall and Spring term. Prerequisite: 220b.

351-4 Ecological Methods. Basic ecological field techniques for analysis of community structure and functional relationships. Two 4-hour laboratories per week. Cost of field trips may be \$5 to \$25 per student. Offered Spring term. Prerequisite: 220a,b and Biology 307.

375-2 Ecology of Surface Mining. Environmental characteristics, techniques of evaluating, plans for utilization and reclamation of surface mined areas. One lecture and one 2-hour laboratory or field trip per week. Credit may not be used toward a major in zoology. Cost of \$5 to \$10 may be incurred by student. Offered Spring term.

393-1 to 3 Individual Research. Research on zoological problems. Credit may not be used toward a minor in zoology. Some cost may be borne by the student. Offered Fall, Spring, and Summer terms. Prerequisite: minimum of 3.00 GPA (*A* is 4.00), senior standing, and approval by the proposed faculty supervisor.

400-3 Cell Biology of Development. Cellular molecular mechanisms of embryogenesis and differentiation. Examination of the cell as a component of interacting tissues constituting the developing organism. Prerequisite: consent of instructor, 300 or advanced standing in Biology.

402-3 Natural History of Invertebrates. Introduction to ecology, intraspecies communication and interspecies relationships of invertebrate animals. Recommended for teacher preparation programs. Two lectures and one 2-hour laboratory per week. Cost of \$10 to \$20 may be incurred by student. Offered Fall term. Prerequisite: 220a.

403-3 Natural History of Vertebrates. Life histories, adaptations, and identification of fish, amphibians, reptiles, birds, and mammals, emphasizing local species. Recommended for teacher preparation programs. One lecture and two 2-hour laboratories per week. Offered Spring semester. Prerequisite: 220b or consent of instructor.

405-3 Systematic Zoology. Theory and procedure of classification; population taxonomy; variation and its analysis; rules of zoological nomenclature; taxonomic publication. Three one-hour lecture-discussion meetings per week. Prerequisite: 220a, b and consent of instructor.

406-3 Protozoology. Taxonomy, cytology, reproduction, and physiology of unicellular animals. Laboratory methods for culture and study. One lecture and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered Fall term. Prerequisite: 220a.

407-4 Parasitology. Principles, collection, identification, morphology, life histories, and control measures. Two lectures and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered Spring term. Prerequisite: 220a.

408-3 Herpetology. Taxonomic groups, identification, morphology, and natural history of amphibians and reptiles. One lecture and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered Fall term. Prerequisite: 220b.

409-4 Vertebrate Histology. Microscopic structure of organs and tissues with emphasis on mammalian material. Two lectures and two 2-hour laboratories per week. Cost of \$5 may be incurred by student. Offered Spring term. Prerequisite: 10 to 12 semester hours of biological science.

410-6 (3, 3) Vertebrate Paleontology. History of vertebrate animals in terms of their morphological change, geological succession, and ecological relationships. (a) Fossil fishes, amphibians, reptiles and birds. (b) Fossil mammals. Two lectures and one 2-hour laboratory per week. Cost of \$5 may be incurred by student. Offered (a) Fall; (b) Spring term. Prerequisite: 220b.

413-6 (3, 3) The Invertebrates. (a) Structure, phylogeny, and habitats of the lower invertebrates through lophophorates and deuterostomes except echinoderms. (b) Structure, phylogeny, and habitats of the higher invertebrates including echinoderms, molluscs, annelids, and arthropods. Three 2-hour laboratories per week. Cost of \$5 may be incurred by the student. Offered Spring term. (a) in alternate even years; (b) alternate odd years. Cost of \$5 may be incurred by student. Prerequisite: 220a.

414-4 Freshwater Invertebrates. Taxonomic groups, identification, distribution, and habitats of the North American freshwater invertebrate fauna. Two lectures, two 2-hour laboratories per week. Offered Fall term. Cost of \$15 to \$20 may be incurred by student for field trips. Prerequisite: 220a.

415-3 Limnology. Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Cost of \$15 to \$20 may be incurred by student. Offered Fall term. Prerequisite: 220a.

421-4 Histological Techniques. Methods of preparing animal tissue for microscopic study and learn theories of staining and histochemistry. One lecture and two 3-hour laboratories per week. Cost of \$15 may be incurred by student. Offered Fall term. Prerequisite: 10 semester hours of biological science.

426-3 Comparative Endocrinology. Comparison of mechanisms influencing hormone release, hormone biosynthesis, and the effects of hormones on target tissues. Includes ablation and histology of glands and chemical and bio-assays with vertebrates and invertebrates. Two lectures and one 2-hour laboratory per week. Cost of \$5 to \$10 may be incurred by student. Offered Spring term. Prerequisite: consent of instructor.

460-2 Upland Game Birds. Identification, life history, ecology, and management. One lecture and one 2-hour laboratory per week; there will be three or four Saturday field trips. Cost of field trips up to \$25 per student. Prerequisite: 220b or consent of instructor.

461-3 Mammalogy. Taxonomic groups, identification, and natural history of mammals. One hour lecture and two 2-hour laboratories per week. Cost of \$10 may be incurred by student. Offered Fall term. Prerequisite: 220b.

462-3 Waterfowl. Identification, life history, ecology, and management. Two lectures and one 2-hour laboratory per week; there will be three or four Saturday field trips. Cost of field trips up to \$25 per student. Prerequisite: 220b or consent of instructor.

463-3 Game Mammals. Natural history and management. Two lectures and one 2-hour laboratory per week. Cost of \$5 may be incurred by student. Prerequisite: 220b or consent of instructor.

465-3 Ichthyology. Taxonomic groups, identification, and natural history of fishes. Two lectures and one 2-hour laboratory per week. Cost of \$10 may be incurred by student. Offered Spring term. Prerequisite: 220b.

466-3 Fish Management. Sampling, age and growth, dynamics, habitat improvement, manipulation of fish populations, and management of freshwater and marine fish stock. Two lectures per week and one 4-hour laboratory alternate weeks. Cost of field trips up to \$25 per student. Offered Fall term. Prerequisite: 10 hours of biological science.

467-3 Ornithology. Classification and recognition of birds and the study of their songs, nests, migratory habits, and other behavior. One lecture and one 4-hour laboratory per week. Cost of field trips may be up to \$20 per student. Offered Spring term. Prerequisite: 220b.

468-4 (2, 2) Wildlife Biology. Basic concepts and techniques employed in managing wildlife population and their associated ecosystems. A basic ecology course is desirable as background for this course. (a) Principles. Two 1-hour lectures per week. (b) Techniques. One 4-hour laboratory session per week, three or four of which will be field trips on Saturdays. Cost of field trips up to \$25 per student may be incurred. Offered Fall term. Prerequisite: 10 semester hours of biological science; plus for zoology majors, concurrent enrollment in 468b.

471-3 Entomology. Structure, classification, and life histories of insects. One lecture and two 2-hour laboratories per week. Offered Fall term. Cost up to \$20 may be incurred by student for field trips. Prerequisite: 220a.

473-3 Aquatic Entomology. Structure, classification, and biology of aquatic insects. One lecture and two 2-hour laboratories per week. Cost up to \$20 may be incurred by student. Offered Spring term. Prerequisite: 220a.

478-3 Animal Behavior. Biological basis of the behavior of animals. Two lectures and one 2-hour laboratory per week. Offered Fall semester. Prerequisite: one year of biological science or permission of instructor.

479-2 to 5 Concepts in Animal Behavior. Terms and concepts relevant to the study of animal behavior. Guided self-instructional format, with two 1-hour and one 3-hour period scheduled weekly, primarily as question-answer and evaluation sessions. Offered alternate Spring term (odd years). Prerequisite: one year of biological science or permission of instructor.

480-2 to 5 Research Methods in Animal Behavior. Skills relevant to doing research in animal behavior. Guided self-instructional format, with two 3-hour periods scheduled weekly, primarily as question-answer and evaluation sessions. Cost of up to \$25 may be incurred by student. Offered alternate Spring semester (even years). Prerequisite: at least two hours of *B* work in 478 or 479, or permission of instructor.

482-1 Zoology Seminar for Seniors. Classical and contemporary topics in zoology. This requirement will normally be met by participating in the regular meeting of the seminar. In lieu of seminar attendance and with consent of departmental chairperson, the student may elect to prepare and give an oral presentation at a special seminar on an agreed upon research topic. One meeting per week. Offered Fall, Spring, Summer terms. Not for graduate credit. Prerequisite: senior standing or 24 hours of life sciences completed. Mandatory Pass/Fail.

496-2 to 4 Zoology Field Studies. A trip of four to eight weeks to acquaint students with animals in various environments and with methods of field study, collection, and preservation. Cost of \$25 may be incurred by the student. Offered Fall, Spring, Summer terms. Prerequisite: consent of department.

508-2 Helminthology.

512-2 Animal Geography.

514-3 Advanced Entomology.

520-3 Advanced Invertebrates.

521-3 Advanced Limnology.

525-3 Cytology.

530-3 Wildlife Diseases.

540-3 Factors in Animal Reproduction.

- 542-3 Osteology.
- 566-3 Fish Culture.
- 567-1 to 4 Techniques in Fish Culture and Fish Management.
- 573-3 Physiological Ecology.
- 577-2 Population Ecology.
- 578-2 Population Genetics.
- 580-3 Advanced Taxonomy.
- 581-2 Zoological Literature.
- 582-1 to 4 (1, 1, 1, 1) Graduate Zoology Seminars.
- 583-1 Teaching Zoology in College.
- 585-36 (3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3) Seminar.
- 593-1 to 12 Individual Research.
- 598-1 to 12 Research Paper.
- 599-1 to 12 Research and Thesis.
- 600-1 to 32 Research and Dissertation.
- 601-1 to 12 per semester Continuing Research.

5 Student Services

Campus Life

Office of Student Development

The professional staff of the Office of Student Development, located on the third floor of the Student Center, works with more than 350 student organizations in fiscal management, organizational matters, and helps organizations to better understand and utilize the policies and procedures of the University relating to student activities and governance.

Among the organizations are the Undergraduate Student Organization and Graduate Student Council, which are the official representative student organizations for their representative constituencies. It is the initial responsibility of these two groups to represent students in University affairs which determine student life on campus. The Black Affairs Council is the coordinating and governmental body for the eighteen black student organizations of the University. The Council takes a major responsibility for programming social, cultural, and educational programs for those interested in black affairs. The Inter-Greek Council is the activity coordinating council for the University's thirteen social fraternities and seven social sororities. This council provides activities which create responsibility for and awareness of the academic community as well as the Carbondale community. The remainder of the vast number of student organizations consist of a varied list of special and public interest groups, religious groups, scholastic and professional honoraries, and departmental organizations. A year-round student voluntary program, Mobilization of Volunteer Effort, is also operated from this office.

The Office of Student Development provides a comprehensive orientation program for new students and their parents. The format of the orientation sessions introduces the participants to the purposes, offices, programs, services, and procedures of the University. The primary purpose of orientation is to reduce anxiety and to acquaint students with the University's vast resources, services, and programs.

In cooperation with the Department of Higher Education, the Office of Student Development provides opportunities for students to receive academic credit for their participation in student activities, programming, student organizations, and student governance. Opportunities are available in student governance, leadership development training course for fraternity and sorority members, undergraduate internship/practicum in student activities, and leadership development training course for new student leaders and student life advisers.

The Office of Student Development is also involved with the Activities Fair and programs and activities for international and non-traditional students.

Student Center

The Student Center is the community center of the University for all students, faculty, administration, alumni, and guests. It is not just a building — it is an organization and a program which together represent a well-considered plan for the community life of the University.

The Student Center offers students many work and cocurricular opportunities. Approximately three hundred students annually have job opportunities in the Student Center and the center receives sizeable student work aid to supplement work opportunities. There are also academic credit and work-related opportunities in conjunction with Commercial Graphics-Design, and the Departments of Higher Education and Recreation. In addition, through student center and student programming council programs, nonmajors may become actively involved in theater, dance, and other performing arts activities.

As a community center it performs four important missions. It supplies support services which complement the academic mission of the university through the bookstore, food service, information services, and meeting facilities. It is part of the educational program of the University and serves as a laboratory of citizenship and leadership through participation in its various boards and committees that provide a campus-wide social, cultural, and recreational program. It is an extension of the classroom which allows practicum students and graduate assistants and interns the opportunity to develop on-the-job expertise in their fields of learning. It serves as a unifying force in the university, cultivating interactions on a common ground between students, faculty, staff, alumni, and friends. It is a focal point to which alumni and students can relate when returning to campus.

The Student Center covers almost eight acres of floor space and is open approximately 16 hours a day, seven days a week. The University Bookstore sells new and used textbooks and school and personal supplies. A variety of food services are offered in the cafeteria, fast foods snack bar, concessions, restaurant, and catering service. Other facilities and services are automated post office, automated banking, event ticket sales, check cashing, Western Union money order receiving station, bowling lanes, billiard room, craft shop, art exhibit and display case areas, television and video lounges, and several general lounges for study and relaxation.

Other available facilities include ballrooms, an auditorium, and several private meeting and dining rooms. Offices in the Student Center are the Student Center Administrative Office, the Alumni Offices, the Student Development Office, the University Programming Office, and the student organization and student government offices.

SIU Arena

The SIU Arena is designed to accommodate athletic events, meetings, musical programs, stage performances, and similar activities that demand a large indoor participant area or facilities to accommodate large audiences. The facilities and staff are available to help meet the requirements of the educational program as well as the intercollegiate athletics program, Area Services, the Division of Continuing Education, and student activities. The SIU Arena also provides a popular entertainment series to help fulfill the educational, cultural, social, and entertainment needs of the University community.

Shryock Auditorium

Shryock Auditorium, located in the center of the historic old campus section of the University, is the premiere performing arts center of southern Illinois. Constructed in 1918, the building was completely renovated in 1973. The facility has 1,200 seats, a dressing room complex capable of accommodating up to 70 performers, and the latest in sound and light control systems.

Each year the auditorium's Celebrity Series features some of the finest Broadway musicals and plays, orchestras, dance companies, and grand opera. In addition to the fine arts, Shryock Auditorium is frequently used by the University's student programming council to present pop, folk, and rock concerts in a setting of comfort and acoustical perfection. The facility is also available for rental by any student organization for large group meetings, conferences, and special events.

Campus Communications Media

SIUC BROADCASTING SERVICE

The SIUC Broadcasting Service provides instructional and public broadcasting through the PBS affiliated WSIU-TV and the NRP affiliated WSIU-FM. Students are provided employment opportunities in a wide range of broadcast related experiences in radio and television through the assistance of the Student Work Program. Both stations actively encourage student unpaid volunteer assistance in broadcast areas of personal interest. Students are permitted to work with the stations' modern equipment in the creation of radio and television programming. Prior broadcast related experience or radio-television coursework is required for most of the paid student positions. Unpaid volunteer work primarily in the areas of news and sports reporting, radio program production, and television production as technical crewmembers.

The stations also provide support for Telpo, a SIUC student radio and television production company supervised by the Department of Radio-Television with professional assistance from the Broadcasting Service staff and facilities. The two-fold purpose of the organization is to produce programs for possible broadcast and to provide students with valuable practical experience on studio equipment. A variety of programs is produced each semester, including music, drama, and instructional shows. Through weekly meetings, guest speakers, tours, training sessions, and actual production work, the members gain knowledge of and competence in their areas of interest in the broadcast industry.

NEWSPAPER

The *Daily Egyptian*, campus newspaper, is published Monday through Friday when school is in session and distributed on campus and at other points in the community. The newspaper is a laboratory newspaper for students in the School of Journalism, produced under professional supervision, using a student editor and staff. More than 100 students work at news, production, advertising, and distribution jobs on the newspaper.

Men's Intercollegiate Athletics

Southern Illinois University at Carbondale has one of the finest all-around men's athletic programs in the country, fielding varsity teams in ten sports: football and cross country in the fall; basketball, indoor track, gymnastics and swimming in the winter; and baseball, outdoor track, tennis, and golf in the spring.

During the school year, the Salukis are favored to win conference championships in indoor and outdoor track, baseball, and possibly once again, win the All-Sports trophy for the Missouri Valley Conference. Also the Saluki football team should field one of the better football teams in the Missouri Valley Conference.

Women's Intercollegiate Athletics

Women's Intercollegiate Athletics provides participants with competitive opportunities in ten sports: basketball, cross country, field hockey, golf, gymnastics, softball, swimming and diving, tennis, track and field, and volleyball. Competitive seasons in fall, winter, and spring allow women athletes to pursue as many as three sports during a school year.

Saluki women have forged a winning record on the intercollegiate sports scene for more than 40 years. In 1968, the women's golf team capped an undefeated season with a national championship. During the '70's, the women gymnasts notched three AIAW national team titles.

The 1981-82 sports year saw Saluki women add to the University's proud heritage. The women's sports teams combined to post a 116-83-3 won-loss record. In tennis and swimming and diving, the Saluki women enjoyed unprecedented success. The netters fashioned a 23-13 record, while the tankers splashed to 16 school records and a third place finish among 40 schools in the AIAW nationals. Overall, the University fielded AIAW national qualifiers in three sports and eight Saluki women received All America honors in 1981-1982.

The 1982-1983 school year will offer a new beginning of sorts for Women's Intercollegiate Athletics participants. Coaches, athletes, and staff will return to Davies Gymnasium, the traditional home of Women's Intercollegiate Athletics where a \$3.25 million renovation was recently completed. Moreover, women's sports teams will be competing solely under the auspices of the National Collegiate Athletic Association, probably as part of a new conference — the Gateway Collegiate Athletic Conference.

Intramural-Recreational Sports

The Office of Intramural-Recreational Sports, located in the Student Recreation Center, provides campus-wide, year-round programs to meet the needs of individuals wishing to participate in sport or leisure time activities. Program opportunities are available at the student Recreation Center, various campus playfields, tennis courts, and Lake-on-the-Campus.

Intramural sports offers organized tournaments and special events for individual and team competition. Recreational sports programs include informal recreational opportunities, recreation for special populations, sport clubs, fitness workshops, and aquatic activities at the 40-acre Lake-on-the-Campus.

The Student Recreation Center houses a gymnasium, an Olympic-size swimming pool, eight handball/racquetball courts, a martial arts room, a golf room, a dance studio, a weight room, saunas in each locker room, and a climbing wall.

Recreational equipment is available for indoor and outdoor use. Base camp provides equipment rental for backpacking and camping at a nominal fee.

Leisure exploration service offers information, workshops, and leisure counseling to assist students with awareness of recreational opportunities and leisure alternatives on campus and throughout Southern Illinois.

For detailed information concerning programs and facilities, contact the Office of Intramural-Recreational Sports, 536-5531.

Campus Services

Student Health Program

Southern Illinois University at Carbondale provides an extensive health benefits plan through the Student Health Program. Student input to the plan is provided through the Student Health Policy Board. Interested students may contact the chairperson of the Student Health Policy Board 453-5142.

AREAS OF SERVICE

The Student Health Program offers the following interrelated programs.

Wellness Center. The Wellness Center offers programs and services to help students achieve optimal health and to skillfully administer self-care when ill. Individual and small group counseling, workshops, and seminars in the Student Center,

residence halls, and Student Recreation Center, classroom presentations and special programs are offered throughout the year. Specific services provided through the Wellness Center are as follows:

Stress Management Training	Pregnancy Counseling
Weight Loss Counseling	Sexuality Counseling
Nutrition Assessment Information and Counseling	Alcohol and Drug Information and Counseling
Stop Smoking Counseling	Wellness Library
Yoga, Meditation and Tai Chi Classes	Wellness Outreach Program — Trueblood Hall
Self Care Advice for Athletic Injuries	Residence Hall Programs and Public Presentations
Patient Education	Practicum and Internship Training
Birth Control Information and Counseling	

On-Campus Outpatient Care. This care or primary care is the same as that offered by private general physicians. The Health Service is staffed by the equivalent of six full-time physicians, a full-time psychiatrist, support staff, and student workers. The student benefits include all routine office care and a wide range of diagnostic tests, including laboratory procedures. The benefit does not cover pharmacy charges. To be seen at the clinic, walk in or call 536-2391.

On-Campus Infirmary. On-campus infirmary is provided in a ten-bed inpatient setting on the second floor of the Health Service. Intermediate care is provided for illness when medical and skilled nursing care is required but the student is not in need of hospitalization. Admission to the infirmary must be authorized by a Health Service physician or by an emergency room physician during the hours when the Health Service is closed. Fee-paying students are entitled to room and board, diagnostic laboratory, and physician visits at no charge.

Specialty Care. Specialty care is available through contractual arrangements with local health care agencies. Students must be referred by a Health Service physician or a Memorial Hospital of Carbondale emergency room physician to receive this benefit. The full range of specialist will be provided when indicated.

Hospitalization. Hospitalization or secondary care is provided at Memorial Hospital of Carbondale. Students must be admitted by a Health Service physician, an emergency room physician, or a physician to whom they have been referred by either of the above. Hospitalization and all necessary treatment is provided at no cost for up to 31 days per illness. For information on limitations or exclusions, contact the Student Health Program, 453-3311.

Emergency Services. Emergency services are provided at the Health Service during the hours it is open. Through a contract with Memorial Hospital of Carbondale, the Student Health Program offers emergency services to students when the Health Service is closed. Medical trauma is always handled at the emergency room of Memorial Hospital of Carbondale. All emergency services are covered, except a \$10.00 users fee. This charge will be billed to the students and must be paid during the semester the charge is incurred. An arrangement has also been made with Jackson County Ambulance Service to allow students with medical emergencies to use the ambulance to get to the Health Service or emergency room at no cost. Students should use the health service during regular hours, Memorial Hospital of Carbondale emergency room when the Health Service is closed, and the Jackson County Ambulance Service, 529-2121, for medical emergencies.

Out-of-the-Area-Benefits. Out-of-the-area-benefits or extended/supplemental care is provided to students for medical services that are not provided in the Carbondale

area or are needed for acute or emergent care when the student is out of the area. Through special arrangements with an insurance company, the following reasonable medical expenses incurred will be paid: (1) If hospitalized the student must pay the first \$25.00. The insurance company will pay the next \$500 of hospital, x-rays, and laboratory fee expenses; (2) The plan has a coinsurance provision which provides for payment of 75% of hospital expenses over the initial \$500; reasonable and customary surgical in-hospital doctor calls, emergency room services; and ambulance service. The plan carries an overall maximum payable of \$20,000 for incurred expenses. The fee information is subject to change because it is bid with insurance companies on a periodic basis.

Dental Services. The Student Emergency Dental Service provides dental care to resolve emergency dental disorders. For appointments or information, call 549-5651.

LOCATION OF SERVICES

The services of the Student Health Program are available in several locations. The outpatient clinic, infirmary, and diagnostic services are located in 115 Small Group Housing, 453-3311, or 536-2391, for appointments. The pharmacy, administrative offices, and wellness center are located at 112 Small Group Housing, 453-3311. The student emergency dental service is located at the School of Technical Careers, 549-5651. Memorial Hospital of Carbondale is located at 404 West Main Street, 549-0721. The Carbondale Clinic is at 2601 West Main Street, 549-5361.

ELIGIBILITY

Any student who is enrolled at Southern Illinois University at Carbondale and has paid the student medical benefit fee is eligible for services. If a refund has been issued for parts of the fee, as explained below, the student is still eligible for service in the areas not refunded. Eligibility for the program extends from the first day of the enrollment period for which fees have been paid to two weeks after the last day of that semester. However, students are covered through all break periods when enrollment is continuous from semester to semester. An optional summer plan is available to provide students with medical benefits over the summer vacation. Dependents of students or staff members of the university are not eligible for Student Health Program benefits. However, a family plan for dependents is available to students through the local insurance agent. For more information on eligibility and these plans, call 453-3311. An optional maternity plan is also available.

FEES

The \$60.00 student medical benefit fee is distributed to the programs listed below. A student who receives a refund of any portion of the fee is not eligible for the benefits of that program but would continue to be eligible for benefits of any programs for which the fees have been paid.

- Student Wellness Resource Center

- On-Campus Outpatient Program

- Infirmary On-Campus

- Specialty Care

- Hospitalization, Memorial Hospital of Carbondale

- Emergency Services, Memorial Hospital of Carbondale

- Emergency Services, Jackson County Ambulance Service

- Out-of-the-Area Benefits

- Student Emergency Dental Service

Students who carry their own medical insurance or are covered under their parents' policy may be eligible for a refund of portions of the student medical benefit fee.

Refunds of the fee are made on the basis of comparable or duplicate coverage for each area of service. Students who think they may qualify for a refund may apply no later than the end of the third week of each semester by contacting the insurance claims officer of the Student Health Program. When applying, students should provide their fee statement and a copy of their insurance policy. The insurance department is located in Room 118 of 112 Small Group Housing, 453-3311.

The limits of the Student Health Program benefits are (1) overall maximum of \$20,000 per illness and (2) \$300 or eight visits whichever comes first for the specialty care benefit.

CONFIDENTIALITY OF INFORMATION

All visits to any division of the Student Health Programs are confidential. Medical information may be released when authorized by the student. Medical information may also be released without authorization from the student to a court when subpoenaed, to the University legal counsel when the university is being sued and the medical information would be pertinent, and to the public health department as required by law when a student is suffering from a reportable communicable disease. In addition, cases involving firearms and criminal offenses must be reported to the police.

Women's Services

The general purpose of the office of Women's Services is to provide information and support for women in making educational and personal decisions. This is done in four major ways: serving as a clearinghouse for resources and referrals; developing and implementing outreach programming, i.e., groups, workshops, seminars, lectures; providing consultation for groups and individuals in designing services for women both on campus and in the community; and serving in an advocacy/supportive role for women students and staff. Services are not limited only to career concerns but are also aimed at providing experiences for personal growth in anticipation of the changing roles of women.

Staff is available for assistance in finding information about financial aid, day care, support groups, and other subjects. Programs designed to aid adult women returning to school include a peer assistance service, peer support groups, emergency contact services for parents attending classes, and a monthly newsletter.

Concerned about the personal safety and wellbeing of all University women, Women's Services monitors the women's night safety transit system and the brightways pathways on campus as part of campus safety and rape prevention. In addition, Women's Services works in cooperation with a wide variety of campus and community agencies involved with the problem of sexual assault. Prevention education is available for residence halls, classes, and groups upon request. Staff members are available on a walk-in or appointment basis. A resource library is also available.

Career Planning and Placement Center

The Career Planning and Placement Center provides assistance to students preparing for entry into the working world. Placement consultants are available to assist students and alumni with all aspects of the job search including planning, resume writing, interviewing techniques, letters of application, general information about career opportunities in their field, and specific facts about positions taken by recent SIUC graduates in that major area of study. The Career Planning and Placement Center is visited annually by over 400 recruiters, representing 200 businesses, government agencies, schools, and service organizations. Lifetime credential service is available to all students at the Career Planning and Placement Center, and alumni are encouraged to inform the center of their plans and avail themselves of the available services. Students may establish a file containing their

resume and letters of recommendation, which will be sent upon request to any employer seeking to fill a vacancy or to any graduate school of the student's choice.

The Cooperative Education Program is administered by the Career Planning and Placement Center. Students majoring in engineering and technology, business, or agriculture may seek assistance in arranging a career-related work experience or internship. The intermixing of academic study and professional practice provides the student with an opportunity for increasing career awareness, personal growth, dollar income, and ultimate employment success.

Career Counseling

Career counseling is a unit charged specifically with helping students resolve career or choice of major conflicts by providing direct access to a staff of professionally trained counselors. Students who have not chosen a major, or who wish to examine work values and assess their abilities, can talk with professional career counselors on a one-to-one basis. They will be assisted in clarifying their ideas about themselves and in identifying possible occupational alternatives. The career counselors also administer and interpret tests and surveys to determine an individual's aptitude, interest, achievement, and personality factors. A career information library is maintained by career counseling and provides students with written and taped materials about career fields, specific job opportunities, and job search techniques.

Testing Services

Testing services offers GED and admission tests required for undergraduate and graduate admission. Credit by examination, local proficiency, and the national CLEP and PEP programs are available with required preregistration. Many brochures also provide helpful sample tests allowing candidates to become familiar with test content and emphasis. Certification, licensure, and competency programs as required by state and professional associations are also offered any candidate as an area service.

Counseling Center

The Counseling Center is staffed with professional psychologists and counselors qualified to assist students with personal development and resolution of problems. Personal problems, relationship adjustment difficulties, family conflict, and sex role awareness development are areas of frequent concern to students. Both group and individual counseling are provided within an atmosphere of confidentiality and trust. In addition, personal development group programs are available to assist students in such areas as social skill development, assertiveness, managing anger, eating behaviors, and others. Call 453-5371 for information or an appointment. The center is located in A302 Woody Hall.

Services to Students with Disabilities

The University maintains a strong commitment to make all services, programs, and activities equally available to students with disabilities. Disabled students are integrated into regular programs and services and special services are provided through the Specialized Student Services Office and other departments in order that this student population may obtain the maximum academic, social, and cultural benefits within the University community. Available services and programs include pre-admission information, pre-enrollment planning, orientation and mobility training, special transportation, special recreational activities, career counseling and placement services, proctoring academic examinations, special materials and equipment for visually impaired students and learning disabled students, reader recruitment and referral, recruitment and referral of personal attendants, provision of interpreters and notetakers for hearing impaired stu-

dents, wheelchair repair, special parking, liaison with academic departments and other offices, and liaison with agencies such as vocational rehabilitation and the Veterans Administration.

The campus is quite accessible and usable by students who use wheelchairs, and by those who are semi-ambulatory, visually handicapped, hearing impaired, or otherwise disabled. The University Housing Office provides modified housing in the Thompson Point Residential Area and in the family housing areas.

Persons with disabilities apply and are considered for admission in the same manner as other persons. The nature or severity of disability is not considered in the admission determination. Persons with disabilities interested in attending Southern Illinois University at Carbondale are encouraged to visit campus in order to discuss programs and services and to tour the campus. Disabled prospective students are also encouraged to formally apply for admission as far in advance as possible to ensure sufficient time for planning support services after being admitted but before the starting date of the semester.

Any further information may be obtained by writing to the Office of Admissions or the Specialized Student Services Office. The Specialized Student Services Office may be reached by calling (Area Code 618) 453-5738. This number provides opportunity for regular voice communication as well as a teletypewriter for communication by and with the deaf.

Office of the University Ombudsman

The University Ombudsman assists students, faculty, administrators, and staff in resolving problems within the University. Some problems can be resolved with a bit of information: a name, a phone number, or a rule. Others require long hours of research, counseling and negotiation. The objective of the office is to find effective and fair solutions to these problems. Since the office is independent of but familiar with academic and administrative units, it works toward clarifying those policies and procedures which seem to be a source of problems. All inquiries are treated confidentially.

Clinical Center

The Clinical Center is staffed by professionally trained faculty and by supervised student diagnosticians, therapists, and counselors. It provides diagnostic and treatment services to faculty, staff, University students, and other individuals in the community.

Services include diagnostic assessment of psychological, speech, hearing, reading, and general education problems. Therapy services encompass various forms of counseling and behavior modification, social casework, speech and hearing therapies, physical therapy, and educational remediation.

Alumni Services

Alumni Services serves as a liaison between the University and over 80,000 alumni.

It conducts an extensive program of activities of mutual interest to the University constituents and alumni. Students are assisted directly with student loans, scholarships, awards, and summer jobs through the Student Work and Financial Assistance Office. The office also coordinates the Student Alumni Board, a volunteer student organization of students serving students through a variety of activities. We invite your participation. Contact the Alumni Office.

University Museum

The University Museum serves the campus community and surrounding area through its active exhibit program and in its cooperative ventures with other academic units to improve the quality of instruction.

The exhibits housed in Faner Hall, C wing, are designed to give viewers an authentic glimpse of the area's past. Temporary exhibits are displayed in both Faner Hall and in Mitchell Gallery located in Quigley Hall and include a series of graduate student thesis presentations, faculty art, and photography, as well as exhibits from the permanent collections and special national and international exhibits designed around a particular theme. In addition to these formal exhibits, many permanent collection objects are displayed at several other campus locations.

The University Museum also serves students in more specific ways, by providing on-the-job training, courses in museum studies, and opportunity for creating and installing practicum exhibits of art, history, and science. Through these avenues, students are able to draw on the extensive collections which include approximately 5,000 works of art, and thousands of ethnographic items from many areas of the world.

The University Museum provides a community service through guided tours, a lecture program, a loan program, and works with many area groups to provide meaningful learning experiences.

International Education

The Office of International Education promotes the international dimensions of instructional, research, and service activities of the University. The office encourages the student body and faculty to explore and develop international interests, provides support for international research, coordinates international technical assistance projects, coordinates international cultural programs for the University and the broader community, advises students from the United States about overseas opportunities, and publicizes international grant programs for graduate students and faculty.

The office also provides a wide range of services and programs for international students and faculty. These services and programs can be divided into three categories: legal/contractual, educative, and supportive.

Legal/Contractual services include the financial clearance process for admission, advisement about U.S. immigration matters and certifications of enrollment and expenses for foreign governments and sponsoring agencies.

Educative services and programs include orientation, advisement of foreign student associations, publication of a monthly newsletter, the *International Date-line*, operation of the Foreign Speakers' Bureau, and assistance with coordination of the International Festival and other cultural activities.

Supportive services include pre-admission correspondence, initial arrival assistance, assistance in conjunction with University offices and community agencies, and assistance and advisement about personal matters.

A number of community volunteers render assistance to the services and programs provided by the Office of International Education. They are especially helpful during orientation periods, when they meet arriving students and assist them in getting settled in the Carbondale community. They also help throughout the year by assisting the Foreign Speakers' Bureau and coordinating a host family program, a hospitality program, and a number of other activities. These community volunteers operate as an international friends club and they can be contacted through the Office of International Education.

6 Faculty

Accountancy (College of Business and Administration)

- Anderson, Donald T., Assistant Professor, Ph.D., Texas A & M University, 1980.
Arlinghaus, Barry, Associate Professor, Ph.D., University of Cincinnati, 1979.
Barron, Mary Noel, Associate Professor, *Emerita*, C.P.A., M.B.A., Indiana University of Michigan, 1946.
Basi, Bartholomew A., Professor and *Chairperson*, C.P.A., J.D., D.B.A., Indiana University, 1971.
Burger, Clifford R., Professor, *Emeritus*, C.P.A., M.S., Indiana State University, 1947.
Eriksen, Douglas C., Associate Professor, C.P.A., C.M.A., Ph.D., University of Missouri/Columbia, 1968.
Joy, Arthur, Instructor, C.P.A., M.B.A., University of Oklahoma, 1976.
Masoner, Michael, Associate Professor, C.P.A., Ph.D., University of Minnesota, 1975.
Neal, Phillip G., Assistant Professor, C.P.A., M.B.A., J.D., Southern Illinois University at Carbondale
Ogden, Susie, Associate Professor, *Emerita*, A.M., University of Illinois, 1931.
Rivers, Richard A., Assistant Professor, C.P.A., D.B.A., Kent State University, 1976.
Schmidlein, Edward J., Jr., Professor, *Emeritus*, C.P.A., Ph.D., New York University, 1953.
Strupeck, C. David, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1981.
Swick, Ralph D., Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1954.
Tucker, Marvin W., Professor, Ph.D., University of Alabama, 1966.
Wright, Roland M., C.P.A., Ph.D., University of Iowa, 1962.

Administrative Sciences (College of Business and Administration)

- Bateman, David N., Professor, Ph.D., Southern Illinois University, 1970.
Bedwell, R. Ralph, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1969.
Bussom, Robert S., Associate Professor, Ph.D., Ohio State University, 1973.
Fohr, John M., Professor, *Emeritus*, Ed.D., Michigan State University, 1959.
Jauch, Lawrence R., Professor, Ph.D., University of Missouri-Columbia, 1973.
Kraft, Kenneth L., Assistant Professor, D.B.A., University of Maryland, 1982.
Larson, Lars L., Associate Professor, Ph.D., University of Illinois, 1971.
Martin, Thomas N., Jr., Associate Professor, Ph.D., University of Iowa, 1977.
Peters, Lawrence H., Associate Professor, Ph.D., Purdue University, 1975.
Ramaprasad, Arkalgud, Assistant Professor, Ph.D., University of Pittsburgh, 1980.
Rehn, Henry J., Professor, *Emeritus*, Ph.D., University of Chicago, 1930.
Schermerhorn, John R., Associate Professor, Ph.D., Northwestern University, 1974.
Scott, John W., Professor, *Emeritus*, Ph.D., University of Chicago, 1930.
Sekaran, Uma, Associate Professor, Ph.D., University of California-Los Angeles, 1977.
Troutt, Marvin, Assistant Professor, Ph.D., University of Illinois at Chicago Circle, 1975.
Vicars, William M., Associate Professor and *Acting Chairperson*, Ph.D., Southern Illinois University, 1969.
Westberg, William C., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948.
White, Gregory P., Associate Professor, Ph.D., University of Cincinnati, 1976.
Wilson, Harold K., Assistant Professor, D.B.A., University of Colorado, 1972.

Aerospace Studies

Hanley, Carl R., Adjunct Instructor.
 Head, Edward J., Adjunct Professor.
 Humphrey, James L., Adjunct Assistant Professor.
 Linn, Dennis L., Adjunct Assistant Professor.
 Smith, William E., Adjunct Assistant Professor.

Agribusiness Economics (School of Agriculture)

Herr, William McD., Professor Ph.D., Cornell University, 1954.
 Keeper, Wendell E., Professor, *Emeritus*, Ph.D., Cornell University, 1938.
 Kraft, Steven E., Assistant Professor, Ph.D., Cornell University, 1980.
 Persaud, Tillak, Assistant Professor, Ph.D., Oklahoma State University, 1980.
 Shumaker, George A., Assistant Professor, Ph.D., University of Georgia, 1977.
 Solverson, Lyle, Associate Professor, Ph.D., University of Wisconsin, 1967.
 Wills, Walter J., Professor, Ph.D., University of Illinois, 1952.

Agricultural Education and Mechanization

(School of Agriculture)

Benton, Ralph A., Professor, *Emeritus*, Ph.D., University of Illinois, 1955.
 Doerr, William A., Assistant Professor, Ph.D., Southern Illinois University, 1973.
 Legacy, James, Associate Professor, Ph.D., Cornell University, 1976.
 Paterson, John J., Associate Professor, *Emeritus*, M.S., University of Saskatchewan, 1943.
 Patterson, Richard J., Assistant Professor, M.S., Michigan State University, 1969.
 Reneau, Fred W., Assistant Professor, Ed.D., Virginia Tech, 1979.
 Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967.
 Wolff, Robert L., Professor, Ph.D., Louisiana State University, 1971.
 Wood, Eugene S., Professor, *Emeritus*, Ed.D., University of Missouri, 1958.

Allied Health and Public Services (School of Technical

Careers)

Adams, Jerry David, Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University.
 Adams, Vickie S., Adjunct Instructor, Allied Health Careers Specialites, ASRT.
 Ahlf, Renee L., Assistant Professor, Dental Hygiene, B.S., Southern Illinois University at Carbondale, 1975.
 Airsman, Terry Earl, Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University.
 Aly, Ralph Douglas, Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University, 1974.
 Ansaldi, Gary M., Adjunct Instructor, Allied Health Careers Specialties, B.S., University of Rhode Island, 1977.
 Baril, Raymond J., Adjunct Instructor, Mortuary Science.
 Barton, David M., Adjunct Instructor, Allied Health Careers Specialties, A.A., Lincoln Land Community College, 1978.
 Barton, Rolene Kay, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Lincoln Land Community College, 1977.
 Bishop, Michael Lewis, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Lincoln Land Community College, 1976.
 Bledig, Alice, Adjunct Instructor, Nursing, M.S.N., University of Evansville, 1979.
 Boles, James Harvey, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Merritt College, 1969.
 Boor, Susan Maureen, Project Coordinator, Rural Health Occupations Project, M.S., Southern Illinois University, 1981.
 Branson, Bonnie, Instructor, Dental Hygiene, B.S., University of South Carolina, 1976.

- Brookins, Howard B.**, Adjunct Instructor, Mortuary Science, Worsham College of Mortuary Science, 1967.
- Bryan, Beverly Sue**, Adjunct Instructor, Dental Hygiene.
- Buckles, James D.**, Assistant Professor, Correctional Services and Law Enforcement, M.S., Central Missouri State University, 1979.
- Campagna, Eric Carter**, Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University, 1970.
- Caron, Philip Louis**, Adjunct Associate Professor, Dental Hygiene, D.D.S., Georgetown University, 1971.
- Champion, Darrell E.**, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Lexington Technical Institute, 1974.
- Cittadino, Dominic**, Adjunct Assistant Professor, Dental Hygiene, D.D.S., Loyola University, 1974.
- Counsell, Lee A.**, Adjunct Associate Professor, Dental Hygiene, M.P.H., University of Michigan, 1967.
- Cunningham, Jimmie C.**, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Jefferson Community College, 1976.
- Davis, Valda (Sue)**, Researcher, Allied Health Careers Specialties, B.S., University of Vermont, 1977.
- Dixon, Michael Ray**, Adjunct Instructor, Allied Health Careers Specialties, ASRT.
- Dodig, Rodney Lee**, Adjunct Instructor, Allied Health Careers Specialties.
- Donihhan, Monav**, Adjunct Instructor, Nursing, B.S.N., University of Evansville, 1978.
- Draper, Violet**, Adjunct Instructor, Nursing, M.S.N., Southern Illinois University, 1981.
- Dugger, Bettie**, Adjunct Instructor, Dental Hygiene, A.A., Southern Illinois University, 1974.
- Dunn, Susan**, Visiting Instructor, Dental Hygiene, B.S., Marquette University, 1976.
- Eifert, David.**, Researcher, Allied Health Careers Specialties, M.S., Southern Illinois University, 1980.
- Elliott, James R.**, Associate Professor, Dental Hygiene, D.D.S., University of Tennessee, 1953; M.S., Ohio State College of Dentistry, 1962.
- Ellis, Betty B.**, Adjunct Instructor, Allied Health Careers Specialties, R.N., Jewish Hospital, 1949.
- Enterman, Cynthia Jo.**, Assistant Professor, Dental Hygiene, M.S., Southern Illinois University, 1980.
- Etherton, Edward E.**, Adjunct Instructor, Allied Health Careers Specialties.
- Gallegly, Judith C.**, Adjunct Instructor, Allied Health Careers Specialties, B.S., Southern Illinois University, 1980.
- Gooden, Regina T.**, Adjunct Instructor, Allied Health Careers Specialties, R.R.T., 1976.
- Gottzman, Vikki**, Assistant Professor, Dental Hygiene, M.S. Washington University, 1980.
- Green, Rita L.**, Visiting Instructor, Dental Hygiene, A.A., Southern Illinois University, 1966.
- Griffith, David**, Adjunct Instructor, Allied Health Careers Specialties, R.T.
- Having, Karen**, Adjunct Instructor, Allied Health Careers Specialties, R.T.
- Hees, Alice Jane**, Assistant Professor, Nursing, R.N., M.S., University of Colorado, 1960.
- Hefner, Michael Scott**, Adjunct Instructor, Allied Health Careers Specialties, B.S., Southern Illinois University, 1973.
- Herr, Robert Charles**, Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University, 1965.
- Hertz, Donald G.**, Associate Professor, Mortuary Science and Funeral Service, Ed.M., University of Oklahoma, 1953.
- Herschkowitz, Melvin Alan**, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Westchester Community College, 1973.
- Hillebrenner, Lynda**, Instructor, Allied Health Careers Specialties, B.A., University of Arizona, 1974.
- Hillman, Robert V.**, Instructor, Allied Health Careers Specialties.
- Huffman, William Nyle**, Adjunct Instructor, Mortuary Science, M.S., Southern Illinois University, 1948.
- Hughes, Larry**, Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University, 1966.
- Hughey, Charles E.**, Adjunct Instructor, Mortuary Science.
- Ijams, Kayleonne**, Assistant Professor, Dental Laboratory Technology, M.A., Southern Illinois University, 1980.
- Ingram, Curtis B.**, Adjunct Instructor, Mortuary Science, Worsham College of Mortuary Science, 1955.
- Irvin, Larry M.**, Adjunct Instructor, Worsham College of Mortuary Science, 1961.
- Jackson, Jolayne**, Assistant Professor, Allied Health Careers Specialties, B.A., University of Texas, 1971.
- Jensen, Catherine**, Assistant Professor, Dental Hygiene, M.A., Morehead State University, 1980.

- Jensen, Steven, Visiting Instructor, Allied Health Careers Specialties, M.S.H.Ed., Morehead State University, 1979.
- Jones, Patricia Ann, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Southern Illinois University, 1980.
- Just, David, Assistant Professor, Allied Health Careers Specialties, M.Ed., University of Illinois, 1979.
- Kalbfleisch, Lee, Adjunct Instructor, Allied Health Careers Specialties, R.R.T., 1973.
- Kelso, James Ellis, Adjunct Instructor, Allied Health Careers Specialties, A.S.R.T., 1962.
- Kerr, Larry J., Adjunct Instructor, Allied Health Careers Specialties, R.R.T., 1978.
- King, Jacquelyn, Adjunct Instructor, Nursing, R.N., M.S.N., Northern Illinois University, 1975.
- Kuberski, Roger J., Visiting Instructor, Allied Health Careers Specialties, R.N., C.R.T.T., University of Chicago, 1976.
- Kuhl, Mary, Adjunct Instructor, Nursing, R.N., M.S.N., University of Evansville, 1981.
- Laake, Dennis J., Assistant Professor, Dental Laboratory Technology, M.S. Ed., Southern Illinois University, 1973.
- Landt, John, Adjunct Instructor, Allied Health Careers Specialties, A.R.C.R.T.
- LeFevre, Hazel L., Adjunct Instructor, Nursing, R.N., B.S.N., Columbia University, 1953.
- Leix, Patricia Elaine, Adjunct Instructor, Allied Health Careers Specialties, A.S., 1979.
- Lichter, David R., Adjunct Instructor, Allied Health Careers Specialties, R.M.T., 1975.
- Lipe, Sandra K., Adjunct Instructor, Nursing, R.N., M.S.N., University of Evansville, 1981.
- Lugenbeel, Archie, Associate Professor, Allied Health Careers Specialties, M.Ed., University of South Carolina, 1964.
- Martin, Carol A., Assistant Professor, Correctional Services and Law Enforcement, Ed.D., Andrews University, 1976.
- McKelvey, Patti, Visiting Instructor, Allied Health Careers Specialties, M.S., Southern Illinois University, 1980.
- McMurry, William, Visiting Associate Professor, Dental Hygiene, D.D.S., University of Missouri at Kansas City, 1950.
- Meeks, Wrophas, Adjunct Associate Professor, Allied Health Careers Specialties, M.D., Howard University, 1969.
- Meister, John F., Adjunct Instructor, Allied Health Careers Specialties, Biology, Southern Illinois University.
- Miller, Sandra A., Adjunct Instructor, Allied Health Careers Specialties, A.R.T., 1974.
- Minetree, Thomas Andrew, Adjunct Instructor, Allied Health Careers Specialties, M.D., Medical School University of Arkansas, 1955.
- Mitch, Deborah, Visiting Instructor, Allied Health Careers Specialties, A.S., Triton College, 1977.
- Moore, Cynthia J., Adjunct Instructor, Allied Health Careers Specialties.
- Moore, Stephen R., Adjunct Instructor, Allied Health Careers Specialties, R.M.T., 1980.
- Morgan, Frederic L., Associate Professor and Director, Allied Health and Public Services Division, Ed.D., Ball State University, 1969.
- Morgan, Michael Lee, Adjunct Instructor, Allied Health Careers Specialties, A.S.R.T., 1981.
- Morgan, Stephen E., Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University, 1973.
- Neeld, Elise M., Adjunct Associate Professor, Allied Health Careers Specialties, M.D., Vanderbilt University, 1968.
- Nelson, Dianne E., Adjunct Instructor, Nursing, B.S.N., University of Iowa, 1977.
- Nichols, Alexis D., Adjunct Instructor, Allied Health Careers Specialties, A.S.R.T., 1974.
- Nicholson, Mary Lou, Adjunct Instructor, Allied Health Careers Specialties, R.T.
- Nolen, Frederick D., Adjunct Associate Professor, Dental Hygiene.
- Officer, Marion E., Sr., Adjunct Instructor, Mortuary Science, St. Louis College of Mortuary Science, 1951.
- Okita, Ted Y., Associate Professor, Physical Therapist Assistant, M.A., Northwestern University, 1964.
- O'Rourke, Dyann Lynn, Adjunct Instructor, Allied Health Careers Specialties.
- Pape, Carolyn D., Instructor, Physical Therapist Assistant, B.S., University of Pennsylvania, 1975.
- Patchett, Barbara, Adjunct Instructor, Nursing, R.N., M.S.N., University of Evansville, 1974.
- Paul, Carol J., Researcher/Visiting Instructor, Allied Health Careers Specialties, A.A., Triton College, 1977.
- Paulk, Marilyn, Assistant Professor, Dental Hygiene, B.S., Southern Illinois University, 1975.
- Pflaum, Kim L., Adjunct Instructor, Allied Health Careers Specialties, A.S., Midlands, Technical College, 1979.
- Poston, George H., Assistant Professor, Mortuary Science and Funeral Service, M.S., Southern Illinois University, 1977.

- Powers, Jack Allen**, Adjunct Instructor, Allied Health Careers Specialties, A.A.S., Kirkwood Community College, 1978.
- Radden, David E.**, Adjunct Instructor, Mortuary Science, Wisconsin Institute of Mortuary Science, 1965.
- Reinhardt, Janet R.**, Adjunct Instructor, Allied Health Careers Specialties.
- Russell, Lee Gentry**, Adjunct Instructor, Mortuary Science, Indiana College of Mortuary Science, 1955.
- Scherer, Francis X.**, Adjunct Instructor, Allied Health Careers Specialties, C.R.N.A., St. John's School of Anesthesia.
- Schnirring, Richard**, Adjunct Instructor, Allied Health Careers Specialties, R.R.T., C.R.T.T., B.A., Sangamon State University, 1980.
- Schroeder, Paul Dennis**, Adjunct Instructor, Mortuary Science, A.A., Southern Illinois University, 1969.
- Selg, Timothy E.**, Instructor, Dental Laboratory Technology, B.S., Southern Illinois University, 1977.
- Settle, Brian**, Adjunct Instructor, Allied Health Careers Specialties, B.S., Eastern Illinois University, 1978.
- Sloane, David L.**, Adjunct Associate Professor, Allied Health Careers Specialties, M.D., University of Illinois Medical School, 1965.
- Sowder, Deloris**, Visiting Instructor, Allied Health Careers Specialties, A.A., Nursing, Southern Illinois University, 1980.
- Staab, George J., Jr.**, Adjunct Instructor, Mortuary Science, Worsham College of Mortuary Science, 1973.
- Stines, Virginia Lee**, Adjunct Instructor, Allied Health Careers Specialties, R.T., A.A., Belleville Area College.
- Straley, Kevin J.**, Instructor, Mortuary Science and Funeral Service, B.S., Southern Illinois University, 1976.
- Sung, Rosemary**, Visiting Instructor, Allied Health Careers Specialties, B.A., University of British Columbia, 1970.
- Testo, Ernest J.**, Adjunct Professor, Dental Hygiene, D.M.D., University of Pittsburgh, 1967.
- Trombino, Dorothy J.**, Adjunct Instructor, Allied Health Careers Specialties, A.R.R.T., 1959.
- Troutt, Eileen**, Visiting Instructor, Allied Health Careers Specialties, M.S., University of Illinois, 1975.
- VanNatta, George W.**, Adjunct Instructor, Mortuary Science, New York School of Embalming and Restorative Art, Inc., 1950.
- Waks, Dennis Stanford**, Lecturer, Correctional Services and Law Enforcement, L.L.M., University of Missouri at Kansas City, 1975.
- Waleskowski, Peter M.**, Adjunct Instructor, Allied Health Careers Specialties.
- Westphal, Dwight**, Dental Laboratory Technology, B.S., Southern Illinois University, 1977.
- Wikoff, Don T.**, Adjunct Instructor, Mortuary Science, Worsham College of Embalming, 1934.
- Wikoff, Forest G., Jr.**, Adjunct Instructor, Mortuary Science, B.S., Millikin University, 1954.
- Wilson, Robert A.**, Adjunct Instructor, Mortuary Science, Kentucky School of Mortuary Science, 1962.
- Wingenter, J. Alvalyne**, Adjunct Instructor, Allied Health Specialties.
- Winings, John R.**, Assistant Professor, Dental Laboratory Technology, M.A., Governors State University, 1972.
- Wolaver, Jo Ellen**, Instructor, Dental Hygiene, M.S. in Ed., Southern Illinois University, 1975.
- Young, Donald W.**, Adjunct Instructor, Mortuary Science, Indiana College of Mortuary Science, 1964.

Animal Industries (School of Agriculture)

- Arthur, Robert D.**, Assistant Professor, Ph.D., University of Missouri, 1970.
- Goodman, Bill L.**, Professor, Ph.D., Ohio State University, 1959.
- Harmon, David E.**, Assistant Professor, Ph.D., University of Georgia, 1978.
- Hausler, Carl L.**, Associate Professor, Ph.D., Purdue University, 1970.
- Hinners, Scott W.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1958.
- Kammade, W. G., Jr.**, Associate Professor, Ph.D., University of Illinois, 1951.
- Kroening, Gilbert H.**, Professor, Ph.D., Cornell University, 1965.
- Lee, D. Dixon, Jr.**, Associate Professor, Ph.D., North Carolina State University, 1970.
- Olson, Howard H.**, Professor, Ph.D., University of Minnesota, 1952.
- Powell, Stephen E.**, Assistant Professor, Ph.D., Purdue University, 1978.
- Reed, Alex**, Professor, *Emeritus*, Ph.D., University of Illinois, 1953.

Strack, Louis E., Associate Professor, D.V.M., University of Illinois, 1961.
Woody, H. Dee., Assistant Professor, Ph.D., Michigan State University, 1978.
Young, Anthony W., Professor and *Chairperson*, Ph.D., University of Kentucky, 1969.

Anthropology (College of Liberal Arts)

Bender, M. Lionel, Associate Professor and *Chairperson*, Ph.D., University of Texas at Austin, 1968.
Braun, David P., Assistant Professor, Ph.D., University of Michigan, 1977.
Butler, Brian M., Adjunct Assistant Professor, Ph.D., Southern Illinois University, 1977.
Corruccini, Robert S., Assistant Professor, Ph.D., University of California at Berkeley, 1975.
Dark, Philip J. C., Professor, *Emeritus*, Ph.D., Yale University, 1954.
Diener, Paul E., Assistant Professor, Ph.D., Stanford University, 1979.
Euler, Robert C., Adjunct Professor, Ph.D., University of New Mexico, 1958.
Ford, Susan M., Assistant Professor, Ph.D., University of Pittsburgh, 1980.
Gummerman, George J., Professor, Ph.D., University of Arizona, 1969.
Handler, Jerome S., Professor, Ph.D., Brandeis University, 1965.
Jefferies, Richard W., Adjunct Assistant Professor, Ph.D., University of Georgia, 1978.
Kelley, J. Charles, Professor, *Emeritus*, Ph.D., Harvard University, 1948.
MacLachlan, Bruce B., Associate Professor, Ph.D., University of Chicago, 1962.
Maring, Ester G., Assistant Professor, Ph.D., Indiana University, 1969.
Maring, Joel M., Associate Professor, Ph.D., Indiana University, 1967.
Muller, Jon D., Associate Professor, Ph.D., Harvard University, 1967.
Nichols, Deborah L., Adjunct Assistant Professor, Ph.D., Pennsylvania State University, 1980.
Powell, Shirley L., Adjunct Assistant Professor, Ph.D., Arizona State University, 1980.
Rands, Robert L., Professor, Ph.D., Columbia University, 1952.
Riley, Carroll L., Professor, Ph.D., University of New Mexico, 1952.
Taylor, Walter W., Professor, *Emeritus*, Ph.D., Harvard University, 1943.

Applied Technologies (School of Technical Careers)

Beauchamp, Clarence, Assistant Professor, *Emeritus*, M.S., University of Wisconsin, Stout, 1949.
Butts, Thomas, Instructor, Automotive Technology, B.S., Southern Illinois University, 1974.
Cash, Joe R., Assistant Professor, Automotive Technology, M.S.Ed., Southern Illinois University, 1970.
Crenshaw, J. Howard, Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.
Greer, Jack, Instructor, Automotive Technology, B.S., Southern Illinois University, 1974.
Harbison, James L., Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.
Hoyle, Orville Glenn, Instructor, *Emeritus*, Tool and Manufacturing Technology, B.Ed., Western Illinois University, 1931.
Jones, Paul, Instructor, *Emeritus*, Automotive Technology.
Kazda, Joseph G., Assistant Professor, Automotive Technology, M.S.Ed., Southern Illinois University, 1965.
Lampman, Duncan, Associate Professor, Tool and Manufacturing Technology and Construction Technology, M.S.Ed., Southern Illinois University, 1956.
McDonald, James H., Instructor, *Emeritus*, Automotive Technology, B.S.Ed., Central Missouri State University, 1948.
Morris, Michael, Instructor, Automotive Technology, A.A.S., Texas State Technical Institute, 1973.
Muhich, Frank W., Associate Professor, *Emeritus*, Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University, 1957.
Naas, James, Assistant Professor, Construction Technology, B.S., Southern Illinois University, 1972.
Osborn, Harold W., Assistant Professor, Construction Technology, M.S.Ed., Southern Illinois University, 1960.
Ray, O. B., Instructor, *Emeritus*, Automotive Technology, B.S., Murray State University, 1934.
Romack, Charles, Assistant Professor, Automotive Technology, B.S., Southern Illinois University, 1965.
Runkle, Lewis C., Assistant Professor, *Emeritus*, Automotive Technology, B.S., Southern Illinois University, 1965.

- Sanders, Eugene**, Assistant Professor, Tool and Manufacturing, B.S., Southern Illinois University at Carbondale, 1956.
- Simon, Ernest J.**, Professor, *Emeritus*, M.S., University of Illinois, 1936.
- Simpson, Jerry**, Assistant Professor, Automotive Technology, M.S., Colorado State University, 1966.
- Soderstrom, Harry R.**, Professor, Tool and Manufacturing Technology, M.S., Bradley University, 1952.
- Staley, Glenn Lamb**, Instructor, Construction Technology, M.S., Southern Illinois University, 1976.
- Traylor, George Lelon**, Associate Professor, Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University, 1965.
- Tregoning, Philip**, Assistant Professor, Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University, 1965.
- White, James E.**, Assistant Professor, Automotive Technology, B.S.Ed., Southern Illinois University, 1961.
- Willey, Lucian D.**, Associate Professor, *Emeritus*, Automotive Technology, B.Ed., Western Illinois University, 1936.
- Wilson, Thomas**, Visiting Instructor, Applied Technology, A.A.S., Southern Illinois University, 1977.

Army Military Science

- Bosworth, Randall G.**, Adjunct Instructor.
- Brown, Raymond K.**, Adjunct Instructor.
- Fleener, Larry D.**, Adjunct Professor and *Chairperson*, M.S., Georgie State University, 1973.
- Hampton, Julian G.**, Adjunct Instructor.
- Mack, Peter B.**, Adjunct Assistant Professor, B.A., Arkansas Technical University, 1973.
- Martin, Michael J.**, Adjunct Assistant Professor, B.A., University of Wisconsin-Milwaukee, 1973.
- Raffaelli, Paul J.**, Adjunct Assistant Professor, B.S., Kearney State College, 1975.
- Rowe, Thomas H.**, Adjunct Assistant Professor.
- Winslow, Margaret J.**, Adjunct Assistant Professor, M.S., Troy State University, 1972.

Art (College of Communications and Fine Arts)

- Abrahamson, Roy E.**, Associate Professor, Ed.D., Columbia University, 1965.
- Addington, Aldon M.**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1966.
- Barone, Violet Trovillion**, Assistant Professor, *Emeritus*, M.A., George Peabody College for Teachers, 1955.
- Bernstein, Lawrence A.**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1953.
- Boysen, Bill H.**, Associate Professor, M.F.A., University of Wisconsin, 1966.
- Covington, Patricia Beene**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1980.
- Deller, Harris**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1973.
- Fehm, Sherwood A.**, Associate Professor, Ph.D., Yale University, 1971.
- Feldman, Joel B.**, Assistant Professor, M.F.A., Indiana University, 1967.
- Fink, Herbert L.**, Professor, M.F.A., Yale University, 1958.
- Greenfield, Sylvia R.**, Associate Professor, M.F.A., University of Colorado, 1967.
- Johnson, Evert A.**, Lecturer, M.A., University of Iowa, 1954.
- Kington, L. Brent**, Professor and *Director*, M.F.A., Cranbrook Academy of Art, 1961.
- Lawson, Elnora**, Instructor, *Emerita*, B.Ed., Southern Illinois University, 1936.
- Lintault, M. Joan**, Associate Professor, M.F.A., Southern Illinois University, 1962.
- Littlefield, F. Lee**, Assistant Professor, M.A., University of New Mexico, 1968.
- Mavigliano, George J.**, Associate Professor, M.A., Northern Illinois University, 1967.
- Mawdsley, Richard**, Associate Professor, M.F.A., University of Kansas, 1969.
- Onken, Michael O.**, Assistant Professor, M.A., Northern Illinois University, 1966.
- Paulson, Robert L.**, Associate Professor, M.F.A., University of Wisconsin, 1967.
- Roach, Lula D.**, Associate Professor, *Emerita*, M.A., Washington University, 1953.
- Shay, Edward Holden**, Associate Professor, M.F.A., University of Illinois, 1971.
- Sullivan, James E.**, Associate Professor, M.A., University of California at Los Angeles, 1965.
- Sullivan, Milton F.**, Professor, M.A., Columbia University, 1951.
- Walsh, Thomas J.**, Professor, M.F.A., University of Michigan, 1962.
- Wood, Dan D.**, Associate Professor, M.A., University of Iowa, 1968.
- Youngblood, Michael S.**, Assistant Professor, Ph.D., University of Oregon, 1975.

Aviation Technologies (School of Technical Careers)

- Bainbridge, Steven L., Visiting Instructor, Aviation Technology.
 Birkhead, Larry M., Assistant Professor, Avionics Technology, B.A., Southern Illinois University, 1978.
 Cannon, Richard H., Assistant Professor, Aviation Technology, B.S., Southern Illinois University, 1982.
 Cotter, John David, Visiting Instructor, Aviation Technology, B.S., Southern Illinois University, 1976.
 Davis, Joseph Phillip, Visiting Instructor, A.S., Southern Illinois University.
 Eiff, Gary Marvin, Instructor, Avionics Technology, B.S., Southern Illinois University, 1982.
 Elledge, Gale, Visiting Instructor, Avionics Technology.
 Gaul, Frederick James, Visiting Instructor, Aviation Technology.
 Grisham, Debra Kay, Visiting Instructor, Avionics Technology, B.S., Southern Illinois University, 1979.
 Halverson, Paul David, Instructor, Aviation Technology, M.S., Central Missouri State University, 1978.
 Jones, Michael James, Visiting Instructor, Avionics Technology, A.B., 1982.
 Kolkmeier, Robert O., Assistant Professor, Aviation Technology, M.S.Ed., Southern Illinois University, 1971.
 Lyon, William Bruce, Instructor, Aviation Technology, A.A.S., Southern Illinois University, 1973.
 McCormick, Roderick Crighton, Visiting Instructor, Aviation Technology, B.S., Southern Illinois University, 1981.
 Milton, William Carl, Instructor, Aviation Technology.
 Murphy, Robert Dennis, Instructor, Avionics Technology, B.S.A., University of Puerto Rico, 1980.
 O'Brian, Benjamin Harrin, Instructor, Aviation Technology, B.S., University of Akron, 1973.
 Ohman, Lennart R., Assistant Professor, Aviation Technology, B.S., University of Illinois, 1964.
 Rodriguez, Charles Louis, Instructor, Aviation Technology, B.S., Southern Illinois University, 1978.
 Russell, Lewis Glen, Visiting Instructor, M.S.Ed., Avionics Instructor, Southern Illinois University, 1978.
 Sanders, Robert Frank, Visiting Instructor, B.S., Aviation Technology, 1978.
 Schafer, Joseph Allen, Associate Professor and *Director*, Aviation Technology, B.S., Lewis College, 1960.
 Staples, Laurence C., Assistant Professor, Aviation Technology, B.S., Southern Illinois University, 1975.
 Stapleton, Walter Lawson, Instructor, Aviation Technology, B.S., Southern Illinois University, 1981.
 Verner, Gerry D., Assistant Professor, Aviation Technology, B.S., Southern Illinois University, 1973.
 Williams, Raymond J., Visiting Instructor, Avionics Technology.

Botany (College of Science)

- Ashby, William C., Professor, Ph.D., University of Chicago, 1950.
 Bissing, Donald R., Assistant Professor, Ph.D., Claremont Graduate School, 1976.
 Marberry, William M., Assistant Professor, *Emeritus*, University of Illinois, 1936.
 Matten, Lawrence C., Professor, Ph.D., Cornell University, 1965.
 Mohlenbrock, Robert H., Professor, Ph.D., Washington University, 1957.
 Olah, Ladislao V., Professor, *Emeritus*, Ph.D., Stephen Tisza University, Hungary, 1934.
 Pappelis, Aristotel J., Professor, Ph.D., Iowa State University, 1957.
 Robertson, Philip A., Associate Professor, Ph.D., Colorado State University, 1968.
 Schmid, Walter E., Professor, Ph.D., University of Wisconsin, 1961.
 Stotler, Barbara C., Professor, Ph.D., University of Cincinnati, 1968.
 Stotler, Raymond E., Associate Professor, Ph.D., University of Cincinnati, 1968.
 Sundberg, Walter J., Associate Professor, Ph.D., University of California, 1971.
 Tindall, Donald R., Professor and *Chairperson*, Ph.D., University of Louisville, 1966.
 Ugent, Donald, Professor, Ph.D., University of Wisconsin, 1966.
 Verduin, Jacob, Professor, Ph.D., Iowa State University, 1947.
 Voigt, John W., Professor, Ph.D., University of Nebraska, 1950.
 Yopp, John H., Professor, Ph.D., University of Louisville, 1969.

Career Development Center

Berry, Gerald L., Assistant Instructor.
 Brantley, Ed, Vocational Instructor.
 Goepfert, Robert W., Counselor, A.B., William Jewell College, 1954.
 Hepburn, Larry D., *Project Director*, M.S., Southern Illinois University, 1969.
 Johnson, Alicia, Assistant Instructor, B.S., Southern Illinois University at Carbondale, 1971.
 Nation, Arvin, Assistant Instructor.
 Neely, Betty A., Assistant Instructor, B.S., Southern Illinois University, 1977.
 Reilly, Thomas E., Assistant Instructor, Counselor, M.S. in Ed., Southern Illinois University at Carbondale, 1963.
 Scott, Donald P., Assistant Instructor.
 Smith, Norman D., Assistant Instructor, A.T., Southern Illinois University, 1956.
 Stucker, Wanda L., Assistant Instructor, B.S., Southern Illinois University, 1978.
 Thomas, Kevin A., Assistant Instructor, A.S., John A. Logan College, 1979.
 Titchenal, Garry, Instructor.
 Vincent, Larry, Job Development Specialist, M.S., Southern Illinois University, 1965.
 Waterman, James M., Assistant Instructor, B.S., Southern Illinois University, 1972.

Center for the Study of Crime, Delinquency, and Corrections (College of Human Resources)

Alexander, Myrl E., Professor, *Emeritus*, LL.D., Manchester College of Indiana, 1956.
 Anderson, Dennis, Assistant Professor, Ed.D., University of Nebraska, 1970.
 Coughlin, Joseph S., Professor and *Director*, M.S.W., University of Wisconsin, 1954.
 Georges-Abeyie, Daniel E., Associate Professor, Ph.D., Syracuse University, 1974.
 Johnson, Elmer H., Professor, Ph.D., University of Wisconsin, 1950.
 Lorinskas, Robert A., Associate Professor, Ph.D., University of Georgia, 1973.
 Matthews, Charles V., Associate Professor, M.S., University of Kansas City, 1951.
 Moore, Richard H., Assistant Professor, Ph.D., University of Nebraska at Lincoln, 1972.
 Riedel, Marc P., Associate Professor, Ph.D., University of Pennsylvania, 1972.
 Robinson, Cyril D., Associate Professor, LL.B., Northwestern University, 1952.
 Timm, Howard W., Assistant Professor, Ph.D., Michigan State University, 1979.
 Wilson, Nanci K., Associate Professor, Ph.D., University of Tennessee, 1972.

Chemistry and Biochemistry (College of Science)

Arnold, Richard T., Professor, *Emeritus*, Ph.D., University of Illinois, 1937.
 BeMiller, James N., Professor, Ph.D., Purdue University, 1959.
 Beyler, Roger E., Professor, Ph.D., University of Illinois, 1949.
 Bolen, D. Wayne, Associate Professor, Ph.D., Florida State University, 1969.
 Brown, George E., Professor, *Emeritus*, Ph.D., Iowa State University, 1941.
 Caskey, Albert L., Associate Professor, Ph.D., Iowa State University, 1961.
 Cox, James A., Professor, Ph.D., University of Illinois, 1967.
 Dunkerton, Lois V., Assistant Professor, Ph.D., Cornell University, 1974.
 Emptage, Michael R., Assistant Professor, Ph.D., Harvard University, 1965.
 Guyon, John C., Professor, Ph.D., Purdue University, 1961.
 Hadler, Herbert I., Professor, Ph.D., University of Wisconsin, 1952.
 Hadley, Elbert H., Professor, Ph.D., Duke University, 1940.
 Hall, J. Herbert, Professor, Ph.D., University of Michigan, 1959.
 Hargrave, Paul A., Professor, Ph.D., University of Minnesota, 1970.
 Hinkle, Conrad C., Professor, Ph.D., University of Texas, 1964.
 Kolb, Vera M., Adjunct Assistant Professor, Ph.D., Southern Illinois University, 1976.
 Koster, David F., Professor, Ph.D., Texas A & M University, 1965.
 Meyers, Cal Y., Professor, Ph.D., University of Illinois, 1951.
 Neckers, J. W., Professor, *Emeritus*, Ph.D., University of Illinois, 1927.
 Phillips, John B., Assistant Professor, Ph.D., University of Arizona, 1977.
 Scheiner, Steven I., Associate Professor, Ph.D., Harvard University, 1976.
 Schmit, Joseph, Associate Professor, Ph.D., Purdue University, 1971.
 Schmulbach, C. David, Professor, Ph.D., University of Illinois, 1958.
 Shriver, John W., Assistant Professor, Ph.D., Case Western University, 1977.

Slocum, Donald W., Adjunct Professor, Ph.D., New York University, 1963.
 Smith, Gerald V., Professor, Ph.D., University of Arkansas, 1959.
 Sung, Michael T., Professor, Ph.D., University of Wisconsin, 1968.
 Trimble, Russell F., Professor, Ph.D., Massachusetts Institute of Technology, 1951.
 Tyrrell, James, Professor and *Chairperson*, Ph.D., University of Glasgow, 1963.
 Van Lente, Kenneth A., Professor, *Emeritus*, Ph.D., University of Michigan, 1931.
 Wotiz, John H., Professor, Ph.D., Ohio State University, 1948.

Cinema and Photography (College of Communications and Fine Arts)

Blumenberg, Richard M., Professor, Ph.D., Ohio University, 1969.
 Cocking, Loren D., Assistant Professor, M.A., Ohio State University, 1969.
 Covell, Michael D., Assistant Professor, M.F.A., Ohio University, 1975.
 Gilmore, David A., Associate Professor, M.F.A., Ohio University, 1969.
 Harpole, Charles H., Assistant Professor, Ph.D., New York University, 1976.
 Horrell, C. William, Professor, Ed.D., Indiana University, 1955.
 Kolb, Gary, Assistant Professor, M.F.A., Ohio University, 1977.
 Lyons, Timothy J., Professor and *Chairperson*, Ph.D., University of Iowa, 1972.
 Paine, Frank, Associate Professor, *Emeritus*, B.S., Iowa State University, 1950.
 Paul, Kathryn E., Assistant Professor, M.F.A., Arizona State University, 1973.
 Powell, W. Duane, Assistant Professor, M.F.A., University of Illinois, 1977.
 Swedlund, Charles A., Professor, M.S., Illinois Institute of Technology, 1961.

Communication Disorders and Sciences (College of Communications and Fine Arts)

Anderson, John O., Professor, Ph.D., Ohio State University, 1950.
 Blache, Stephen E., Associate Professor, Ph.D., Ohio University, 1970.
 Brackett, I.P., Professor and *Chairperson*, Ph.D., Northwestern University, 1947.
 Brown, Lillian L., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1972.
 Brutton, Gene J., Professor, Ph.D., University of Illinois, 1957.
 Crary, Michael A., Assistant Professor, Ph.D., University of Iowa, 1938.
 Hoshiko, Michael S., Professor, Ph.D., Purdue University, 1957.
 Koepp-Baker, Herbert, Professor, *Emeritus*, Ph.D., University of Iowa, 1938.
 Lehr, Robert, Associate Professor, Ph.D., Baylor University, 1971.
 Moncur, John P., Professor, *Emeritus*, Ph.D., Stanford University, 1950.
 Prizant, Barry M., Associate Professor, Ph.D., State University of New York at Buffalo, 1978.
 Smaldino, Joseph J., Associate Professor, Ph.D., University of Florida, 1974.

Comprehensive Planning and Design (College of Human Resources)

Archer, Richard E., Assistant Professor, M.S., Governor's State University, 1979.
 Berry, Thelma Huff, Professor, *Emerita*, Ed.D., Columbia University, 1963.
 Busch, W. Larry, Assistant Professor, M.S., Southern Illinois University, 1970.
 Campbell, Linda, Visiting Instructor, M.S., Southern Illinois University, 1976.
 Clarke, David C., Associate Professor, M.A., Catholic University, 1981.
 Ellner, Jack R., Professor, Ph.D., New York University, 1969.
 Grise, Kay S., Assistant Professor, Ph.D., University of Tennessee, 1980.
 Hays, Denny M., Assistant Professor, A.I.A. Registered Architect, M. of Arch., University of Utah, Salt Lake City, 1971.
 Kula, Elsa, Lecturer, *Emerita*, B.F.A., Pratt Institute, Brooklyn, New York, 1977.
 Lougeay, Paul J., Associate Professor, Registered Architect, M.S., Southern Illinois University, 1973.
 McDonald, Antonette, Visiting Instructor, M.S., Southern Illinois University, 1973.
 McGinnis, R. Guy, Assistant Professor, B.Arch., B.F.A., Pratt Institute, 1973, 1972.
 Mendelsohn, Stanley, Visiting Associate Professor, Diploma Arch., Oxford, 1951.
 Nuetzel, Carolyn, Visiting Assistant Professor, M.Arch., Washington University, 1976.

- Padgett, Rose, Professor, *Emerita*, Ph.D., Purdue University, 1955.
 Perk, H.F.W., Lecturer, A.B., University of California at Los Angeles, 1951.
 Perry, Richard A., Assistant Professor, M.F.A., University of Georgia, 1976.
 Pratt, Davis J., Lecturer, Certificate, University of Chicago, IIT, Institute of Design, Chicago.
 Pulley, Charles M., Assistant Professor, *Emeritus*, Registered Architect, B.S., University of Illinois, 1939.
 Ridley, Samantha Sue, Assistant Professor, M.S., Southern Illinois University, 1959.
 Schoen, Alan Hugh, Professor, Ph.D., University of Illinois, 1958.
 Stewart, Lucy P., Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1964.
 St. John, Wayne L., Associate Professor, Ph.D., University of Oregon, 1954.
 Whitesel, Ritta, Associate Professor, *Emerita*, M.A., Columbia University, 1941.

Computer Science (College of Liberal Arts)

- Danhof, Kenneth J., Associate Professor and *Chairperson*, Ph.D., Purdue University, 1969.
 Harris, J. Archer, Assistant Professor, Ph.D., State University of New York at Stony Brook, 1978.
 Hazra, Amitava, Assistant Professor, Ph.D., Illinois Institute of Technology, 1980.
 Mark, Abraham M., Professor, Ph.D., Cornell University, 1947.
 McGlinn, Robert, Assistant Professor, Ph.D., Southern Illinois University, 1976.
 Pagan, Frank G., Associate Professor, Ph.D., University of Toronto, 1972.
 Tveter, Donald R., Assistant Professor, Ph.D., Northwestern University, 1980.
 Varol, Yaakov, Associate Professor, Ph.D., University of Wyoming, 1971.
 Wright, William E., Associate Professor, D.Sc., Washington University, 1972.

Curriculum, Instruction, and Media (College of Education)

- Aikman, Arthur L., Professor, Ph.D., Southern Illinois University, 1965.
 Alston, Melvin O., Professor, *Emeritus*, Ed.D., Columbia University, 1945.
 Barrette, Pierre, Assistant Professor, Ed.D., University of Massachusetts, 1971.
 Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University, 1978.
 Becker, Jerry P., Associate Professor, Ph.D., Stanford University, 1967.
 Bedient, Douglas, Associate Professor, Ph.D., Southern Illinois University, 1971.
 Bowie, Geraldine R., Visiting Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1979.
 Boykin, Arsene O., Associate Professor, Ed.D., University of Illinois, 1964.
 Bradfield, Joyce M., Instructor, *Emerita*, M.A., George Peabody College for Teachers, 1946.
 Bradfield, Luther E., Professor, *Emeritus*, Ed.D., Indiana University, 1953.
 Brod, Ernest E., Professor, *Emeritus*, Ed.D., University of Northern Colorado, 1953.
 Brown, Bill, Instructor, *Emeritus*, M.Ed., University of Missouri, 1946.
 Buser, Margaret, Instructor, M.S. Ed., Indiana University, 1966.
 Butts, Gordon K., Professor, *Emeritus*, Ed.D., Indiana University, 1956.
 Byrd, David M., Assistant Professor, Ph.D., Syracuse University, 1980.
 Carter, Cleo D., Associate Professor, *Emerita*, Ed.D., Indiana University, 1958.
 Casey, John P., Professor, Ed.D., Indiana University, 1963.
 Copenhaver, Ron W., Assistant Professor, Ed.D., Indiana University, 1978.
 Cox, Dorothy, Assistant Professor, Ph.D., Southern Illinois University, 1976.
 Dale, Doris C., Professor, D.L.S., Columbia University, 1968.
 DeFord, Diane, Assistant Professor, Ed.D., Indiana University, 1978.
 DeWeese, Jewel V., Instructor, *Emerita*, M.S. Ed., Southern Illinois University, 1971.
 Dixon, Billy G., Associate Professor and *Chairperson*, Ph.D., Southern Illinois University, 1967.
 Eddins, John M., Assistant Professor, Ph.D., Florida State University, 1966.
 Edwards, Troy W., Professor, *Emeritus*, Ed.D., Indiana University, 1954.
 Fletcher, Kathleen G., Associate Professor, *Emerita*, M.S., University of Illinois, 1947.
 Fligor, Ross J., Professor, *Emeritus*, Ph.D., Michigan State University, 1953.
 Hill, Margaret K., Professor, Ed.D., Boston University, 1948.
 Hungerford, Harold R., Professor, Ph.D., Southern Illinois University, 1970.
 Jacko, Carol, Associate Professor, Ph.D., University of Pittsburgh, 1974.
 Jackson, James, Associate Professor, Ph.D., University of Wisconsin, 1976.
 Jackson, Michael, Associate Professor, Ed.D., University of Florida, 1971.
 Jones, Dan R., Assistant Professor, Ed.D., Indiana University, 1978.
 Karmos, Ann, Associate Professor, Ph.D., Southern Illinois University, 1975.

- Klasek, Charles B., Professor, Ph.D., University of Nebraska, 1971.
 Lamb, Morris L., Associate Professor, Ed.D., University of Oklahoma, 1970.
 Lee, J. Murray, Professor, *Emeritus*, Ph.D., Columbia University, 1934.
 Leming, James, Associate Professor, Ph.D., University of Wisconsin, 1973.
 Lindberg, Dormalee H., Professor, Ed.D., University of Missouri, Columbia, 1969.
 Lipsey, William, Lecturer, *Emeritus*, Ed.D., Northwestern University, 1952.
 Long, Ruth A., Adjunct Professor, Ed.D., Indiana University, 1972.
 Malone, Willis E., Professor, *Emeritus*, Ph.D., Ohio State University, 1950.
 Matthias, Margaret, Associate Professor, Ph.D., Southern Illinois University, 1972.
 McIntyre, John, Associate Professor, Ed.D., Syracuse University, 1977.
 Meehan, Elizabeth C., Assistant Professor, *Emerita*, A.M., University of Illinois, 1940.
 Meyer, Edra T., Instructor, *Emerita*, M.S., Southern Illinois University, 1956.
 Moore, Eryn E., Assistant Professor, Ph.D., Southern Illinois University, 1976.
 Norris, William, Assistant Professor, Ed.D., Indiana University, 1973.
 Paige, Donald D., Professor, Ed.D., Indiana University, 1966.
 Pope, Cedric A., Assistant Professor, *Emeritus*, Ed.D., University of Northern Colorado, 1959.
 Quisenberry, James D., Assistant Professor, Ph.D., Indiana University, 1972.
 Quisenberry, Nancy L., Professor, Ed.D., Indiana University, 1971.
 Randolph, Victor, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1942.
 Rigg, Pat, Associate Professor, Ph.D., Wayne State University, 1974.
 Rubba, Peter A., Associate Professor, Ed.D., Indiana University, 1977.
 Samford, Clarence, Professor, *Emeritus*, Ph.D., New York University, 1940.
 Scheer, Janet K., Assistant Professor, Ph.D., Arizona State University, 1977.
 Seifert, Berniece B., Professor, Ed.D., University of Missouri, 1955.
 Shelton, Vivian H., Instructor, M.S. Ed., Southern Illinois University, 1965.
 Shepherd, Terry R., Associate Professor, Ph.D., University of Illinois, 1971.
 Sloan, Fred A., Professor, Ed.D., George Peabody College for Teachers, 1959.
 Solliday, Michael, Assistant Professor, Ph.D., Southern Illinois University, 1975.
 Spigle, Irving S., Associate Professor, *Emeritus*, Ed.D., Indiana University, 1955.
 Stephens, Clarence, Professor, *Emeritus*, Ed.D., Indiana University, 1955.
 Tomera, Audrey, Professor, Ph.D., Southern Illinois University, 1973.
 Treece, Madelyn, Assistant Professor, *Emerita*, A.M., University of Chicago, 1936.
 Wendt, Paul R., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.
 Winsor, Donald, Associate Professor, Ed.D., University of Florida, 1961.
 Wood, Ruth B., Instructor, *Emerita*, M.S., University of Illinois, 1948.

Economics (College of Liberal Arts)

- Bhandari, Jagdeep, Assistant Professor, Ph.D., Southern Methodist University, 1980.
 Edelman, Milton T., Professor, *Emeritus*, Ph.D., University of Illinois, 1951.
 Ellis, Robert J., Jr., Associate Professor and *Chairperson*, Ph.D., University of Virginia, 1966.
 Fare, Rolf, Associate Professor, Docent., University of Lund, 1976.
 Foran, Terry G., Associate Professor, Ph.D., Pennsylvania State University, 1971.
 Fryman, Richard F., Associate Professor, Ph.D., University of Illinois, 1967.
 Gellerson, Mark, Assistant Professor, Ph.D., Syracuse University, 1978.
 Grabowski, Richard, Assistant Professor, Ph.D., University of Utah, 1977.
 Grosskopf, Shawna, Assistant Professor, Ph.D., Syracuse University, 1977.
 Hand, George H., Professor, *Emeritus*, Ph.D., Princeton University, 1939.
 Hayes, Kathy J., Assistant Professor, Ph.D., Syracuse University, 1980.
 Hickman, C. Addison, Professor, *Emeritus*, Vandever Chair of Economics, Ph.D., University of Iowa, 1942.
 Layer, Robert G., Professor, Ph.D., Harvard University, 1952.
 Logan, James, Assistant Professor, Ph.D., University of Utah, 1982.
 Margaritis, Dimitrios, Assistant Professor, Ph.D., SUNY, Buffalo, 1982.
 Morrison, Vernon G., Professor, *Emeritus*, Ph.D., University of Nebraska, 1961.
 Myers, John G., Professor, Ph.D., Columbia University, 1961.
 Pasurka, Carl A., Jr., Visiting Assistant Professor, Ph.D., University of Illinois, 1981.
 Primont, Daniel A., Professor, Ph.D., University of California at Santa Barbara, 1970.
 Robinson, William D., Assistant Professor, Ph.D., Northwestern University, 1982.
 Shields, Michael P., Assistant Professor, Ph.D., University of Utah, 1975.
 Takayama, Akira, Professor, Vandever Chair of Economics, Ph.D., University of Rochester, 1962.
 Tamor, Kenneth L., Assistant Professor, Ph.D., UCLA, 1981.
 Trescott, Paul B., Professor, Ph.D., Princeton University, 1954.
 Wiegand, G. C., Professor, *Emeritus*, Ph.D., Northwestern University, 1950.
 Yoon, Bong J., Assistant Professor, Ph.D., University of Illinois, 1978.

Educational Leadership (College of Education)

Armistead, Fred J., Professor, *Emeritus*, Ph.D., University of California, 1960.
 Bach, Jacob O., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1951.
 Bracewell, George, Professor, *Emeritus*, Ed.D., Washington University, 1952.
 Brammell, Paris R., Professor, *Emeritus*, Ph.D., University of Washington, 1930.
 Bryant, Roye R., Professor, *Emeritus*, D.Ed., Washington University, 1952.
 Buser, Robert L., Professor, Ed.D., Indiana University, 1966.
 Childs, John L., Professor, *Emeritus*, Ph.D., Teachers College, Columbia University, 1931.
 Clark, Elmer J., Professor, Ph.D., University of Michigan, 1949.
 Dennis, Lawrence J., Professor, Ph.D., Southern Illinois University, 1968.
 Duff, Grace H., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.
 Eaton, William E., Professor, Ph.D., Washington University, 1971.
 Ewing, Parmer L., Professor, *Emeritus*, Ed.D., New York University, 1950.
 Fishback, Woodson W., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1947.
 Greer, Charles E., Visiting Assistant Professor, Ph.D., Southern Illinois University, 1977.
 Hall, James H., Associate Professor, *Emeritus*, Ed.D., George Washington University, 1950.
 Jacobs, Robert, Professor, *Emeritus*, Ed.D., Wayne State University, 1949.
 Jellen, Hans G., Assistant Professor, Ph.D., University of Virginia, 1981.
 Kaiser, Dale E., Professor, Ph.D., University of Illinois, 1963.
 Lawler, Eugene S., Professor, *Emeritus*, Ph.D., Columbia University, 1932.
 Lean, Arthur E., Professor, *Emeritus*, Ph.D., University of Michigan, 1948.
 Matthias, William, Associate Professor, Ed.D., University of Illinois, 1964.
 McKenzie, William R., Professor, Ed.D., University of Denver, 1953.
 Merwin, Bruce W., Professor, *Emeritus*, Ph.D., University of Kansas, 1929.
 Miller, Harry G., Professor, Ed.D., University of Nebraska, 1970.
 Moore, Malvin E., Professor, Ed.D., George Peabody College for Teachers, 1959.
 Neal, Charles D., Professor, *Emeritus*, Ed.D., Indiana University, 1948.
 Parker, James C., Professor and *Chairperson*, Ed.D., University of Tennessee, 1971.
 Sasse, Edward B., Professor, Ph.D., University of Wisconsin, 1966.
 Shelton, William E., Associate Professor, Ph.D., University of Chicago, 1950.
 Stuck, Dean, Professor, Ph.D., Iowa State University, 1968.
 Verduin, John R., Jr., Professor, Ph.D., Michigan State University, 1962.
 Warren, F. G., Professor, *Emeritus*, A.M., University of Chicago, 1928.
 Wohlwend, Herbert W., Associate Professor, Ph.D., Southern Illinois University, 1964.

Electrical Sciences and Systems Engineering (College of Engineering and Technology)

Begley, David L., Assistant Professor, Ph.D., University of Missouri at Rolla, 1978.
 Dodd, Curtis W., Associate Professor, Ph.D., Arizona State University, 1967.
 Dunning, E. Leon, Professor, *Emeritus*, Ph.D., University of Houston, 1967.
 Fieste, Vernold K., Associate Professor and *Acting Chairperson*, Ph.D., University of Missouri at Columbia, 1966.
 Goben, Charles A., Professor, Iowa State University, 1965.
 Hu, C.J., Associate Professor, Ph.D., University of Colorado-Boulder, 1966.
 Jabbari, Bijan, Assistant Professor, Ph.D., Stanford University, 1981.
 Lit, Alfred, Professor, Ph.D., Columbia University, 1948.
 McCalla, Thomas, Jr., Associate Professor, Ph.D., Case Western Reserve University, 1969.
 Mohan, M. Anand, Associate Professor, Ph.D., Indian Institute of Technology, 1970.
 Rawlings, Charles A., Associate Professor, Ph.D., Southern Illinois University, 1974.
 Smith, James G., Professor, Ph.D., University of Missouri at Rolla, 1967.

Engineering Mechanics and Materials (College of Engineering and Technology)

Brower, William E., Jr., Associate Professor, Ph.D., Massachusetts Institute of Technology, 1969.
 Craddock, James N., Assistant Professor, Ph.D., University of Illinois, 1979.
 Davis, Philip, Professor and *Chairperson*, Ph.D., University of Michigan, 1963.

Eddingfield, David, Associate Professor, Ph.D., University of New Mexico, 1975.
 Evers, James, Associate Professor, Ph.D., University of Alabama, 1969.
 Hall, Monte R., Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1974.
 Kassimali, Aslam, Assistant Professor, Ph.D., University of Missouri, 1976.
 Nowacki, C. Raymond, Associate Professor, Ph.D., University of Illinois, 1965.
 Orthwein, William, Professor, Ph.D., University of Michigan, 1959.
 Rubayi, Najim, Professor, Ph.D., University of Wisconsin, 1966.
 Sami, Sedat, Professor, Ph.D., University of Iowa, 1966.

English (College of Liberal Arts)

Appleby, Bruce C., Associate Professor, Ph.D., University of Iowa, 1967.
 Barber, Julia Minette, Assistant Professor, *Emerita*, A.M., University of Illinois, 1915.
 Benziger, James G., Professor, *Emeritus*, Ph.D., Princeton University, 1941.
 Bernhardt, William E., Assistant Professor, Ph.D., University of Michigan, 1981.
 Black, Rose, Instructor, *Emerita*, M.A., Ohio State University, 1926.
 Boyle, Ted Eugene, Professor, Ph.D., University of Nebraska, 1962.
 Brown, William J., Associate Professor, Ph.D., Duke University, 1966.
 Burns, Winifred, Assistant Professor, *Emerita*, M.A., University of Illinois, 1933.
 Camp, George, Assistant Professor, *Emeritus*, Ph.D., University of Illinois, 1951.
 Cassidy, Thomas E., Associate Professor, *Emeritus*, A.M., University of Notre Dame, 1938.
 Clark, Martha, Instructor, *Emerita*, A.M. Southern Illinois University, 1953.
 Cohn, Alan Martin, Professor, M.S., University of Illinois, 1955.
 Coleman, E. C., Professor, *Emeritus*, Ph.D., University of Illinois, 1936.
 Collins, K., Associate Professor, Ph.D., Vanderbilt University, 1977.
 Dodd, Diana L., Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1954.
 Donow, Herbert, Associate Professor, Ph.D., University of Iowa, 1966.
 Friend, Jewell, Associate Professor, Ph.D., Southern Illinois University, 1970.
 Goodin, George, Associate Professor, Ph.D., University of Illinois, 1962.
 Graham, Philip, M.A., City College of New York, 1976.
 Griffin, Robert P., Associate Professor, Ph.D., University of Connecticut, 1965.
 Hatton, Thomas J., Associate Professor, Ph.D., University of Nebraska, 1966.
 Hillegas, Mark, Professor, *Emeritus*, Ph.D., Columbia University, 1957.
 Hilliard, Lewis J., Assistant Professor, M.S. in Ed., Southern Illinois University, 1952.
 Howell, John M., Professor and *Acting Chairperson*, Ph.D., Tulane University, 1963.
 Hurley, Paul, Professor, Ph.D., Duke University, 1962.
 Krappe, Edith, Associate Professor, *Emerita*, Ph.D., University of Pennsylvania, 1953.
 Kvernes, David M., Assistant Professor, Ph.D., University of Minnesota, 1967.
 Lamb, Mary, Associate Professor, Ph.D., Columbia University, 1976.
 Lawson, Richard A., Associate Professor, Ph.D., Tulane University, 1966.
 Lingle, Fred, Assistant Professor, *Emeritus*, A.M., University of Illinois, 1935.
 Little, Judy Ruth, Associate Professor, Ph.D., University of Nebraska, 1969.
 Martin, Joan Foley, Assistant Professor, M.A., Southern Illinois University, 1959.
 McNichols, Edward L., Instructor, M.A., University of Detroit, 1958.
 Mitchell, Betty Lou, Assistant Professor, M.A., Southern Illinois University, 1951.
 Moss, Sidney P., Professor, Ph.D., University of Illinois, 1954.
 Partlow, Robert B., Jr., Professor, *Emeritus*, Ph.D., Harvard University, 1955.
 Paul, James, Assistant Professor, Ph.D., University of Michigan, 1977.
 Peterson, Richard F., Professor, Ph.D., Kent State University, 1969.
 Piper, Henry Dan, Professor, Ph.D., University of Pennsylvania, 1950.
 Rainbow, Raymond, Associate Professor, Ph.D., University of Chicago, 1950.
 Raizis, M. Byron, Professor, Ph.D., New York University, 1966.
 Richman, Lois Anne, Assistant Professor, A.M., University of Illinois, 1962.
 Rinderer, Regina, Assistant Professor, Ph.D., Ohio State University.
 Rudnick, Hans, Professor, Ph.D., University of Freiburg, Germany, 1966.
 Schonhorn, Manuel, Professor, Ph.D., University of Pennsylvania, 1963.
 Simeone, William E., Professor, Ph.D., University of Pennsylvania, 1950.
 Simon, Mary C., Instructor, *Emerita*, A.M., University of Illinois, 1940.
 Smith, Gary, Assistant Professor, Ph.D., Stanford University, 1981.
 Stibitz, E. Earle, Professor, *Emeritus*, Ph.D., University of Michigan, 1951.
 Taylor, Larry E., Associate Professor, Ph.D., University of Oklahoma, 1969.
 Tenney, Charles D., University Professor, *Emeritus*, Ph.D., University of Oregon, 1931.
 Travis, Edna, Instructor, *Emerita*, M.S. in Ed., Southern Illinois University, 1948.
 Vieth, David Muench, Professor, Ph.D., Yale University, 1953.
 Webb, Howard W., Jr., Professor, Ph.D., University of Iowa, 1953.
 Weshinsky, Roy K., Assistant Professor, M.S., Southern Illinois University, 1950.

Finance (College of Business and Administration)

Davids, Lewis E., Professor, Ph.D., New York University, 1949.
 Elsaid, Hussein H., Professor, Ph.D., University of Illinois, 1968.
 Gombala, Michael, Associate Professor, Ph.D., University of South Carolina, 1977.
 Kim, Sang-Hoon, Assistant Professor, Ph.D., University of Wisconsin, 1979.
 Loy, L. David, Assistant Professor, Ph.D., University of Iowa, 1978.
 Mathur, Iqbal, Professor and *Chairperson*, Ph.D., University of Cincinnati, 1974.
 Pertl, Mars A., Associate Professor, Ph.D., University of Iowa, 1974.
 Sarkar, Amitava, Assistant Professor, Ph.D., University of Pittsburgh, 1980.
 Tyler, R. Stanley, Associate Professor, J.D., University of Illinois, 1952.
 Vaughn, Donald E., Professor, Ph.D., University of Texas, 1961.
 Waters, Gola E., Professor, J.D., University of Iowa, 1957, Ph.D., Southern Illinois University, 1970.

Foreign Languages and Literatures (College of Liberal Arts)

Aydt, Judith, Instructor, M.A., Southern Illinois University, 1966.
 Betz, Frederick, Associate Professor, Ph.D., Indiana University, 1973.
 Bodine, Jay F., Adjunct Assistant Professor, Ph.D., Princeton University, 1973.
 Bork, Albert W., Professor, *Emeritus*, Doctor en Letras, National University of Mexico, 1944.
 Canfield, D. Lincoln, Visiting Professor, *Emeritus*, Ph.D., Columbia University, 1934.
 Davis, J. Cary, Professor, *Emeritus*, Ph.D., University of Chicago, 1936.
 Epro, Margaret W., Assistant Professor, Ph.D., University of Pennsylvania, 1975.
 Gobert, David L., Professor, Ph.D., University of Iowa, 1960.
 Hartman, Steven Lee, Assistant Professor, Ph.D., University of Wisconsin, 1971.
 Hartwig, Hellmut A., Professor, *Emeritus*, Ph.D., University of Illinois, 1943.
 Jenkins, Robert K., Visiting Instructor, M.A., Southern Illinois University, 1981.
 Keller, Thomas, Associate Professor, Ph.D., University of Colorado, 1975.
 Kilker, James, Professor, Ph.D., University of Missouri at Columbia, 1961.
 Kupcek, Joseph, Professor, Ph.D., Comenius University, Bratislava, Czechoslovakia, 1943.
 Liedloff, Helmut, Professor and *Chairperson*, Ph.D., Phillips University, Germany, 1956.
 McBride, Charles, Associate Professor, Ph.D., University of Texas, 1968.
 Meinhardt, Warren, Associate Professor, Ph.D., University of California at Berkeley, 1965.
 Neufeld, Anna K., Assistant Professor, *Emerita*, M.A., University of Kansas, 1937.
 O'Brien, Joan, Associate Professor, Ph.D., Fordham University, 1961.
 O'Meara, Maurice, Associate Professor, Ph.D., University of Iowa, 1967.
 Orzechwa, Olga, Associate Professor, Ph.D., Ukrainian Free University, Germany, 1970.
 Peacock, Vera L., Professor, *Emerita*, Ph.D., Cornell University, 1930.
 Speck, Charles, Assistant Professor, Laurea in Diritto Canonico, Pontifical Lateran University, Italy, 1963.
 Tai, James, Associate Professor, Ph.D., Indiana University, 1970.
 Timpe, Eugene F., Professor, Ph.D., University of Southern California, 1960.
 Uner, Arnold, Assistant Professor, Ph.D., University of Missouri at Columbia, 1972.
 Vogely, Maxine, Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1969.
 Wilkinson, Mildred, Instructor, M.A., Southern Illinois University, 1965.
 Williams, Frederick L., Assistant Professor, Ph.D., Cornell University, 1976.
 Woodbridge, Hensley, Professor, Ph.D., University of Illinois, 1950.

Forestry (School of Agriculture)

Aubertin, Gerald M., Associate Professor, Ph.D., Pennsylvania State University, 1964.
 Budelsky, Carl A., Assistant Professor, Ph.D., University of Arizona, 1969.
 Burde, John H., III, Assistant Professor, Ph.D., University of Arizona, 1975.
 Chen, Peter Y. S., Adjunct Assistant Professor, Ph.D., University of Minnesota, 1968.
 Chilman, Kenneth C., Associate Professor, Ph.D., University of Michigan, 1972.
 Chong, She-Kong, Assistant Professor, Ph.D., University of Hawaii, 1979.
 Clausen, Knud E., Adjunct Assistant Professor, Ph.D., University of Minnesota, 1961.
 Fralish, James S., Associate Professor, Ph.D., University of Wisconsin, 1970.

Gaffney, Gerald R., Assistant Professor, Ph.D., Southern Illinois University, 1970.
 Kessler, Kenneth J., Adjunct Assistant Professor, Ph.D., West Virginia University, 1959.
 Kung, Fan H., Professor, Ph.D., Michigan State University, 1968.
 McCurdy, Dwight R., Professor, Ph.D., Ohio State University, 1964.
 Myers, Charles C., Associate Professor, Ph.D., Purdue University, 1966.
 Ponder, Felix, Jr., Adjunct Assistant Professor, Ph.D., Southern Illinois University-Carbondale, 1978.
 Rietveld, Willis J., Adjunct Assistant Professor, Ph.D., University of Arizona, 1974.
 Rink, George, Adjunct Assistant Professor, Ph.D., University of Tennessee, 1974.
 Rosen, Howard H., Adjunct Assistant Professor, Northwestern University, 1969.
 Schlesinger, Richard C., Adjunct Assistant Professor, Ph.D., State University of New York, 1970.
 Steward, Harold A., Adjunct Assistant Professor, M.W.T., University of Michigan, 1967.
 Roth, Paul L., Professor, Ph.D., Kansas State University, 1968.
 Van Sambeek, Jerome W., Adjunct Assistant Professor, Ph.D., Washington University, 1975.
 Weaver, George T., Associate Professor and *Chairperson*, Ph.D., University of Tennessee, 1972.
 Yambert, Paul A., Professor, Ph.D., University of Michigan, 1961.

Geography (College of Liberal Arts)

Arey, David G., Associate Professor and *Chairperson*, Ph.D., Clark University, 1969.
 Baumann, Duane D., Professor, Ph.D., Clark University, 1968.
 Beazley, Ronald I., Professor, Ph.D., Purdue University, 1954.
 Christensen, David E., Professor, Ph.D., University of Chicago, 1956.
 Cunningham, Floyd, Professor, *Emeritus*, Ph.D., Clark University, 1930.
 Horsley, A. Doyné, Assistant Professor, Ph.D., Southern Illinois University, 1974.
 Irwin, Daniel R., Associate Professor, Ph.D., Syracuse University, 1972.
 Jones, David L., Professor, Ph.D., Pennsylvania State University, 1960.
 Krause, Annemarie, Associate Professor, *Emerita*, Ph.D., University of Chicago, 1952.
 Lieber, Stanley R., Assistant Professor, Ph.D., University of Iowa, 1974.
 Prowse, Colin, Assistant Professor, Ph.D., Southampton, 1982.
 Sharpe, David M., Associate Professor, Ph.D., Southern Illinois University, 1968.

Geology (College of Science)

Bell, Frank James, Assistant Professor, *Emeritus*, M.S., University of Nebraska, 1941.
 Crelling, John C., Associate Professor, Ph.D., The Pennsylvania State University, 1973.
 Dutcher, Russell R., Professor and *Chairperson*, Ph.D., The Pennsylvania State University, 1960.
 Esling, Steven Paul, Assistant Professor, Ph.D., University of Iowa, 1982.
 Frank, Charles Otis, Assistant Professor, Ph.D., Syracuse University, 1973.
 Fraunfelder, George H., Professor, Ph.D., University of Missouri, Columbia, 1964.
 Guillemette, Renald N., Assistant Professor, Ph.D., Stanford University, 1973.
 Harris, Stanley E., Jr., Professor, *Emeritus*, Ph.D., University of Iowa, 1947.
 Malinconico, Lawrence L., Assistant Professor, Ph.D., Dartmouth College, 1982.
 Ritter, Dale F., Professor, Ph.D., Princeton University, 1964.
 Sendlein, Lyle V. A., Professor, Ph.D., Iowa State University, 1964.
 Sverdrup, Keith, Assistant Professor, Ph.D., Scripps Institution of Oceanography, University of California-San Diego, 1981.
 Utgaard, John E., Professor, Ph.D., Indiana University, 1963.
 Yazicigil, Hasan, Assistant Professor, Ph.D., Purdue University, 1980.
 Zimmerman, Jay, Jr., Associate Professor, Ph.D., Princeton University, 1968.

Graphic Communications (School of Technical Careers)

Ashworth, Edwin Robert, Assistant Professor, Electronic Data Processing, Ph.D., Southern Illinois University, 1972.
 Bleyer, Dorothy, Associate Professor and *Director*, Graphic Communications, Ph.D., Southern Illinois University, 1977.
 Boza, Gertrude, Instructor, *Emerita*, Graphic Design, Fine Arts Degree, Syracuse University, 1932.

- Bremer, Timothy**, Adjunct Instructor, Electronic Data Processing, B.S., Southern Illinois University, 1981.
- Bremer, Virginia**, Adjunct Instructor, Electronic Data Processing, B.S., Southern Illinois University, 1980.
- Caldwell, Paul N.**, Associate Professor, Electronics Technology, M.S.Ed., Southern Illinois University, 1965.
- Cook, F. Roger**, Instructor, Electronic Data Processing, B.S., Southern Illinois University, 1974.
- Davey, Jon**, Visiting Lecturer, Architectural Technology, B.S., Southern Illinois University, 1979.
- Davis, Diane R.**, Visiting Assistant Professor, Secretarial and Office Specialties, M.S., Southern Illinois University, 1979.
- Davis, L. Noel**, Assistant Professor, Architectural Technology, B.S., University of Illinois, 1948.
- Delmastro, Edwin V.**, Instructor, Photographic Production Technology, B.S., Southern Illinois University.
- Evans, Candy Duncan**, Visiting Assistant Professor, Secretarial and Office Specialties, M.S., Southern Illinois University, 1973.
- Fisher, Valerie**, Assistant Professor, Secretarial and Office Specialties, M.S., Southern Illinois University, 1975.
- Gimenez, Atilio M.**, Assistant Professor, Architectural Technology, M.Arch., University of Buenos Aires, 1964.
- Greathouse, Lillian**, Associate Professor and *Assistant Dean*, Secretarial and Office Specialties, Ph.D., Southern Illinois University, 1981.
- Hampton, Robbye Joanna**, Visiting Instructor, Mathematics, M.S., Southern Illinois University, 1965.
- Harre, Paul A.**, Associate Professor and *Coordinator*, Electronics Technology, M.S., Southern Illinois University, 1974.
- Hertz, Vivienne L.**, Associate Professor, Graphic Communications, Ph.D., Southern Illinois University, 1980.
- Hill, Marvin P.**, Professor, *Emeritus*, M.S., University of Colorado, 1939.
- Hoeveler, George**, Assistant Professor, Commercial Graphics-Design, B.S., University of Wisconsin at Madison, 1942.
- Humphries, James T.**, Assistant Professor, Electronics Technology, M.S., Southern Illinois University, 1979.
- Johnson, Byron V.**, Assistant Professor and *Coordinator*, Electronic Data Processing, Ph.D., Southern Illinois University, 1982.
- Lach, Norman**, Assistant Professor, Architectural Technology, M.Arch., University of Illinois, 1974.
- Ladner, Joel Brooks**, Assistant Professor, Architectural Technology, B.Arch., University of Houston, 1966.
- Little, Harold E.**, Associate Professor, *Emeritus*, Architectural Technology, B.S., Pennsylvania State University, 1951.
- Mailloux, Lawrence**, Assistant Professor, Commercial Graphics-Design, B.F.A., Rhode Island School of Design, 1947.
- Miriani, Theresa B.**, Associate Professor, *Emerita*, Secretarial and Office Specialties, M.S., University of Denver, 1946.
- Morgan, Barbara**, Assistant Professor and *Acting Coordinator*, Secretarial and Office Specialties, M.S.Ed., Southern Illinois University, 1972.
- Morse, H. Pauletta**, Assistant Professor, Secretarial and Office Specialties, M.S., Southern Illinois University, 1975.
- Novak, Mary Ann**, Visiting Assistant Professor, Secretarial and Office Specialties, M.S., Southern Illinois University, 1979.
- Owens, Terry A.**, Visiting Lecturer, Architectural Technology, B.S., Southern Illinois University, 1981.
- Payne, Michael A.**, Assistant Professor, Electronic Data Processing, M.S.Ed., Southern Illinois University, 1974.
- Philbin, Alice**, Adjunct Assistant Professor, Graphic Communications, Ph.D., Southern Illinois University, 1977.
- Ramsey, William**, Lecturer, Physics, M.S., Southern Illinois University.
- Richey, Helen E.**, Assistant Professor, Graphic Communication, M.S.Ed., Southern Illinois University, 1953.
- Rutledge, Clifton D.**, Associate Professor, Architectural Technology, M.Arch., Kansas State University, 1968.
- Sagstetter, Wayne A.**, Visiting Instructor, Electronics Technology, M.S., University of Wisconsin-Stout, 1981.
- Schindler, Richard**, Instructor, Commercial Graphics-Design, A.A., Southern Illinois University, 1973.

- Schoen, Janice S., Assistant Professor, Secretarial and Office Specialties, M.Ed., University of Illinois, 1970.
- Sheets, Leslie P., Assistant Professor, Electronics Technology, M.S.Ed., Southern Illinois University, 1976.
- Shin, Wangshik, Assistant Professor, Secretarial and Office Specialties, M.A., Southern Illinois University, 1963.
- Shupe, William G., Associate Professor, Electronics Technology, M.S., Southern Illinois University, 1977.
- Sipes, Philippe, Visiting Instructor, Electronics Technology.
- Timm, Judee A., Visiting Assistant Professor, Secretarial and Office Specialties, M.A., Michigan State University, 1975.
- Trotter, Gene E., Associate Professor, *Emeritus*, Architectural Technology, B.S., North Dakota State University, 1939.
- Vaughn, F. Eugene, Associate Professor, *Emeritus*, Secretarial and Office Specialties, M.S.Ed., Southern Illinois University, 1961.
- White, Mindy P., Assistant Professor, Secretarial and Office Specialties, M.S., Southern Illinois University, 1976.
- White, Robert, Assistant Professor and *Coordinator*, Photographic Production Technology, M.S., Southern Illinois University, 1962.
- Yack, John L., Associate Professor and *Coordinator*, Commercial Graphics, M.F.A., University of Oklahoma, 1959.

Guidance and Educational Psychology (College of Education)

- Altekruse, Michael K., Professor, Ed.D., Indiana University, 1967.
- Bardo, Harold R., Associate Professor, Ph.D., Southern Illinois University, 1972.
- Beggs, Donald L., Professor, Ph.D., University of Iowa, 1966.
- Bradley, Richard W., Professor, Ph.D., University of Wisconsin, 1968.
- Brown, Beverly, Assistant Professor, Ph.D., University of Iowa, 1974.
- Cody, John J., Professor and *Chairperson*, Ph.D., University of Wisconsin, 1961.
- Daniels, M. Harry, Assistant Professor, Ph.D., University of Iowa, 1978.
- Deichmann, John W., Associate Professor, Ph.D., St. Louis University, 1969.
- DeWeese, Harold L., Professor, *Emeritus*, Ed.D., University of Illinois, 1959.
- Dillon, Ronna, Associate Professor, Ph.D., University of California at Riverside, 1978.
- Elmore, Patricia B., Associate Professor, Ph.D., Southern Illinois University, 1970.
- Graham, Jack W., Professor, Ph.D., Purdue University, 1951.
- Grenfell, John E., Professor, Ed.D., Oregon State University, 1966.
- Kelly, Francis J., Professor, Ph.D., University of Texas, 1963.
- Leitner, Dennis, Associate Professor, Ph.D., University of Maryland, 1975.
- Lewis, Ernest, Professor, Ph.D., Southern Illinois University, 1971.
- Meek, Clinton Roscoe, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1954.
- Mouw, John T., Professor, Ed.D., University of South Dakota, 1968.
- Pohlmann, John T., Associate Professor, Ph.D., Southern Illinois University, 1972.
- Prichard, Karen K., Assistant Professor, Ph.D., Kent State University, 1981.
- Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.
- Snowman, Jack, Associate Professor, Ph.D., Indiana University, 1975.
- White, Gordon, Assistant Professor, Ph.D., University of Iowa, 1969.
- Wise, Steven L., Assistant Professor, Ph.D., University of Illinois, 1981.
- Woehlke, Paula L., Associate Professor, Ph.D., Arizona State University, 1973.
- Yates, J. W., Professor, Ed.D., University of Missouri, Columbia, 1951.

Health Education (College of Education)

- Aaron, James E., Professor, Ed.D., New York University, 1960.
- Belcastro, Philip A., Assistant Professor, Ph.D., Ohio State University, 1980.
- Boydston, Donald N., Professor and *Chairperson*, Ed.D., Columbia University, 1949.
- Bridges, A. Frank, Professor, *Emeritus*, D.H.S., Indiana University, 1952.
- Casey, Ralph, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1956.
- Denny, Florence E., Associate Professor, *Emerita*, M.A., Columbia University, 1935.
- Duncan, David F., Associate Professor, D.P.H., University of Texas at Houston, 1976.
- Gold, Robert S., Associate Professor, Ph.D., University of Oregon, 1976.
- Grissom, Deward K., Professor, *Emeritus*, Ed.D., Columbia University, 1952.
- Hailey, Robert, Instructor, M.Ed., University of Missouri, Columbia, 1959.

Iubelt, George, Instructor, M.S., Indiana University, 1954.
 Jones, Richard, Instructor, M.S.Ed., Southern Illinois University, 1966.
 Lacey, Ella P., Assistant Professor, Ph.D., Southern Illinois University, 1979.
 LeFevre, John R., Professor, Ed.D., Teachers College, Columbia University, 1950.
 Lindauer, Larry, Assistant Professor, Ph.D., Southern Illinois University, 1972.
 McDermott, Robert J., Assistant Professor, Ph.D., University of Wisconsin, 1981.
 Phillips, Frances K., Associate Professor, *Emerita*, M.A., Columbia University, 1940.
 Richardson, Charles E., Professor, Ed.D., University of California, Los Angeles, 1959.
 Ritzel, Dale, Professor, Ph.D., Southern Illinois University, 1970.
 Russell, Robert D., Professor, Ed.D., Stanford University, 1954.
 Sliepecevic, Elena M., Professor, D.P.E., Springfield College, 1955.
 Steele, Robert, Instructor, M.S.Ed., Southern Illinois University, 1963.
 Vaughn, Andrew T., Professor, *Emeritus*, D.Ed., Columbia University, 1958.
 Vitello, Elaine, Visiting Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1977.
 Vogel, Herbert, Instructor, M.S., Indiana University, 1954.
 Zurich, Eileen M., Assistant Professor, Ph.D., Southern Illinois University, 1970.

Higher Education (College of Education)

Adams, Frank C., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1962.
 Caldwell, Oliver J., Professor, *Emeritus*, M.S., Oberlin College, 1927.
 Casebeer, Arthur L., Professor, Ed.D., Oregon State University, 1963.
 Cushman, Martelle L., Adjunct Professor, Ph.D., Cornell University, 1946.
 Davis, I. Clark, Professor, *Emeritus*, Ed.D., Indiana University, 1956.
 Dingerson, Michael R., Assistant Professor, Ph.D., Southern Illinois University, 1974.
 Graham, Jack W., Professor, Ph.D., Purdue University, 1951.
 Grinnell, John E., Professor, *Emeritus*, Ph.D., Stanford University, 1934.
 Hawley, John B., Professor, Ph.D., University of Michigan, 1957.
 Jung, Loren B., Professor, Ph.D., Southern Illinois University, 1969.
 Keene, Roland, Professor, Ed.D., Washington University, 1962.
 King, John E., Professor and *Chairperson*, Ph.D., Cornell University, 1941.
 Morrill, Paul H., Professor, Ph.D., Northwestern University, 1956.
 Spees, Emil R., Assistant Professor, Ph.D., Claremont Graduate School, 1969.
 Stonewater, Barbara B., Visiting Assistant Professor, Ph.D., Michigan State University, 1977.
 Swinburne, Bruce R., Associate Professor, Ed.D., Indiana University, 1970.
 Tolle, Donald J., Professor, Ed.D., Florida State University, 1957.
 Zimmerman, Elwyn, Assistant Professor, Ph.D., Michigan State University, 1963.

History (College of Liberal Arts)

Allen, Howard W., Professor, Ph.D., University of Washington, 1959.
 Ammon, Harry, Professor and *Chairperson*, Ph.D., University of Virginia, 1948.
 Barton, H. Arnold, Professor, Ph.D., Princeton University, 1962.
 Batinski, Michael C., Assistant Professor, Ph.D., Northwestern University, 1969.
 Brehm, Donald L., Assistant Professor, Ph.D., St. Louis University, 1968.
 Carrott, M. Browning, Associate Professor, Ph.D., Northwestern University, 1966.
 Conrad, David E., Professor, Ph.D., University of Oklahoma, 1962.
 Detwiler, Donald S., Professor, Dr. Phil., Göttingen University, Germany, 1961.
 Dotson, John E., Assistant Professor, Ph.D., Johns Hopkins University, 1969.
 Fladeland, Betty L., Professor, Ph.D., University of Michigan, 1952.
 Gardiner, C. Harvey, Professor, *Emeritus*, Ph.D., University of Michigan, 1945.
 Gold, Robert L., Professor, Ph.D., University of Iowa, 1964.
 Kuo, Ping-Chia, Professor, *Emeritus*, Ph.D., Harvard University, 1933.
 McFarlin, Harold A., Assistant Professor, Ph.D., Indiana University, 1971.
 Murphy, James B., Associate Professor, Ph.D., Louisiana State University, 1968.
 O'Day, Edward J., Assistant Professor, A.M., Indiana University, 1956.
 Shelby, Lon R., Professor, Ph.D., University of North Carolina, 1962.
 Simon, John Y., Professor, Ph.D., Harvard University, 1961.
 Vyverberg, Henry S., Professor, Ph.D., Harvard University, 1950.
 Werlich, David P., Associate Professor, Ph.D., University of Minnesota, 1968.
 Wright, John I., Associate Professor, *Emeritus*, A.M., University of Chicago, 1933.
 Wu, Tien-Wei, Professor, Ph.D., University of Maryland, 1965.
 Zucker, Stanley, Associate Professor, Ph.D., University of Wisconsin, 1968.

Human Development (College of Human Resources)

Barnes, Mary Louise, Assistant Professor, *Emerita*, M.S. Iowa State College, 1931.
 Becker, Henrietta, Lecturer, *Emerita*, M.S., Southern Illinois University, 1964.
 Brooks, Thomas M., Professor, Ph.D., Pennsylvania State University, 1961.
 Cude, Brenda J., Assistant Professor, Ph.D., Purdue University, 1978.
 Eddleman, E. Jacqueline, Associate Professor, Ph.D., Southern Illinois University, 1970.
 Endres, Jeannette M., Associate Professor, Ph.D., St. Louis University, 1972.
 Gulley, S. Beverly, Associate Professor, Ph.D., Southern Illinois University, 1974.
 Haessig, Carolyn J., Assistant Professor, Ph.D., Ohio State University, 1979.
 Harper, Jenny M., Professor, *Emerita*, Ph.D., Cornell University, 1941.
 Jones, Jennie Y., Assistant Professor, A.M., University of Illinois, 1949.
 Konishi, Frank, Professor, Ph.D., Cornell University, 1958.
 Payne, Irene R., Professor, Ph.D., Cornell University, 1960.
 Ponton, Melva F., Assistant Professor, M.S., University of Illinois, 1951.
 Quigley, Eileen, Professor, *Emerita*, Ed.D., University of Missouri, 1947.
 Rogers, Shirley M., Assistant Professor, M.S.Ed., Southern Illinois University, 1961.
 Taylor, Jan Cooper, Assistant Professor, Ph.D., Texas Woman's University, 1979.
 Walker, Rosemary, Assistant Professor, Ph.D., Purdue University, 1978.
 Zurich, Michael, Professor, Ph.D., Florida State University, 1959.

Journalism (College of Communications and Fine Arts)

Atwood, Erwin L., Professor, Ph.D., University of Iowa, 1965.
 Brown, George C., Professor, Ph.D., Southern Illinois University, 1963.
 Bullion, Stuart, Assistant Professor, Ph.D., University of Minnesota, 1981.
 Clayton, Charles C., Professor, *Emeritus*, B.J., University of Missouri, 1925.
 Combs, Adrian H., Lecturer, M.A., Southern Illinois University, 1975.
 Ford, James L. C., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.
 Frazier, Mary K., Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1965.
 Grunty, C. Richard, Assistant Professor, J.D., University of Illinois, 1959.
 Harmon, William M., Adjunct Instructor, M.S., Oklahoma State University, 1965.
 Hart, Jim Allee, Professor, *Emeritus*, Ph.D., University of Missouri, 1959.
 Long, Howard R., Professor, *Emeritus*, Ph.D., University of Missouri, 1948.
 Lyons, William H., Assistant Professor, *Emeritus*, M.A., University of Colorado, 1935.
 McCoy, Ralph E., Professor, *Emeritus*, Ph.D., University of Illinois, 1956.
 McKerns, Joseph, Assistant Professor, Ph.D., University of Minnesota, 1979.
 Mendenhall, Harlan H., Lecturer, B.A., University of Oklahoma, 1937.
 Murphy, James E., Assistant Professor, Ph.D., University of Iowa, 1974.
 Murphy, Sharon M., Associate Professor, Ph.D., University of Iowa, 1973.
 Nelson, Harold E., Lecturer, B.S., Kansas State University, 1939.
 Rice, W. Manion, Associate Professor, Ph.D., Southern Illinois University, 1967.
 Riffe, Daniel, Assistant Professor, Ph.D., University of Tennessee, 1980.
 Riffe, Florence C., Assistant Professor, Ph.D., University of Tennessee, 1982.
 Stone, Vernon A., Professor and *Director*, Ph.D., University of Wisconsin, 1966.
 Stonecipher, Harry W., Associate Professor, Ph.D., Southern Illinois University, 1971.
 Summey, Edith, Assistant Professor, Ed.D., Arizona State University, 1974.

Latin American Studies Committee

Adams, Kendall A., Professor, Ph.D., Michigan State University, 1962 (Department of Marketing).
 Doerr, William A., Assistant Professor, Ph.D., Southern Illinois University, 1973 (Department of Agricultural Education and Mechanization).
 Garner, William R., Associate Professor, Ph.D., Tulane University, 1963 (Department of Political Science).
 Gold, Robert L., Professor, Ph.D., University of Iowa, 1964 (Department of History).
 Gummerman, George J., Professor, Ph.D., University of Arizona, 1969 (Department of Anthropology).
 Hartman, Steven Lee, Assistant Professor, Ph.D., University of Wisconsin, 1971 (Department of Foreign Languages and Literatures).
 Kilker, James, Professor, Ph.D., University of Missouri at Columbia, 1961 (Department of Foreign Languages and Literatures).

- McBride, Charles, Associate Professor, Ph.D., University of Texas, 1968 (Department of Foreign Languages and Literatures).
 Marquez-Sterling, Carlos, Assistant Professor, D.L., Havana University, 1952 (Library).
 Marquez-Sterling, Mariana, Assistant Professor, D.L., Havana University, 1954 (Library).
 Meinhardt, Warren, Associate Professor, Ph.D., University of California at Berkeley, 1965 (Department of Foreign Languages and Literatures).
 Rands, Robert L., Professor, Ph.D., Columbia University, 1952 (Department of Anthropology).
 Riley, Carroll L., Professor, Ph.D., University of New Mexico, 1952 (Department of Anthropology).
 Ugent, Donald, Associate Professor, Ph.D., University of Wisconsin, 1966 (Department of Botany).
 Ulner, Arnold, Assistant Professor, Ph.D., University of Missouri at Columbia, 1972 (Department of Foreign Languages and Literatures).
 Werlich, David P., Associate Professor, Ph.D., University of Minnesota, 1968 (Department of History); *Chairperson*, Latin American Studies Advisory Committee.
 Wilkinson, Mildred, Instructor, M.A., Southern Illinois University, 1965 (Department of Foreign Languages and Literatures).
 Woodbridge, Annie S., Researcher, M.A., George Peabody College for Teachers, 1936 (Library).
 Woodbridge, Hensley, Professor, Ph.D., University of Illinois, 1950 (Department of Foreign Languages and Literatures).

Library

- Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University, 1978.
 Baysinger, Patricia, Researcher, B.A., Southern Illinois University, 1970.
 Bedient, Douglas, Associate Professor, Ph.D., Southern Illinois University, 1971.
 Black, George W., Jr., Professor, M.S.L.S., Columbia University, 1966.
 Bork, Elizabeth V., Instructor, B.A., University of Southern California, 1955.
 Bowen, Louisa H., Assistant Professor, M.S.L.S., Wayne State University, 1974.
 Boydston, Jo Ann, Professor, Ph.D., Columbia University, 1950.
 Brown, F. Dale, Assistant Professor, Ph.D., Southern Illinois University, 1978.
 Chervinko, James S., Assistant Professor, M.S.L.S., University of Illinois, 1973.
 Clark, Charlotte R., Instructor, A.B.L.S., University of Michigan, 1940.
 Cluff, E. Dale, Associate Professor, Ph.D., University of Utah, 1976.
 Cohn, Alan M., Professor, M.S., University of Illinois, 1955.
 Cook, Margaret K., Assistant Professor, Ph.D., Southern Illinois University, 1977.
 Coscarelli, William C., Associate Professor, Ph.D., Indiana University, 1977.
 Cox, Shelley M., Assistant Professor, M.A.L.S., University of Chicago, 1973.
 Crane, Lilly E., Assistant Professor, M.A.L.S., University of Michigan, 1967.
 Denzel, Harry, Assistant Professor, Ph.D., Southern Illinois University, 1971.
 Eads, D. Kathleen, Assistant Professor, M.S., University of Illinois, 1949.
 Fahey, Kathleen G., Assistant Professor, M.L.S., University of Minnesota, 1968.
 Fox, James W., Assistant Professor, M.A., University of North Carolina, 1974.
 Fox, Mary Anne, Assistant Professor, M.S.L.S., University of North Carolina, 1975.
 Harwood, Judith Ann, Assistant Professor, Ph.D., Southern Illinois University, 1981.
 Hildreth, Margaret H., Assistant Professor, M.L.S., State University of New York at Geneseo, 1970.
 Holliday, Charles L., Assistant Professor, M.S., University of Illinois, 1964.
 Hostetler, Jerry, Assistant Professor, Ph.D., Southern Illinois University, 1977.
 Hutton, Betty Jean, Instructor, M.S. in Ed., Southern Illinois University, 1968.
 Isbell, Mary K., Assistant Professor, M.S., Southern Illinois University, 1971.
 Jenkins, Darrell L., Assistant Professor, M.A., New Mexico State University, 1976.
 Keel, Robert L., Assistant Professor, M.A.L.S., George Peabody College for Teachers, 1961.
 Kilpatrick, Thomas L., Assistant Professor, M.S., University of Illinois, 1963.
 Koch, David V., Assistant Professor, M.A., Southern Illinois University, 1963.
 Lampman, Wilma L., Assistant Professor, M.S., Southern Illinois University, 1962.
 Levine, Barbara, Researcher, M.A., Northwestern University, 1960.
 Lockrem, Emily Jane, Assistant Professor, M.A., University of Wisconsin, 1976.
 Marquez-Sterling, Carlos, Assistant Professor, D.L., Havana University, 1952.
 Marquez-Sterling, Mariana, Assistant Professor, D.L., Havana University, 1954.
 Marrero, Carlos E., Instructor, M.A., University of Denver, 1961.
 Martinsek, Catherine W., Researcher, M.A., University of California at Los Angeles, 1950.
 Matson, Susan A., Assistant Professor, Ph.D., University of Wisconsin, 1972.
 Matthews, Elizabeth W., Associate Professor, Ph.D., Southern Illinois University, 1972.

Matthews, Sidney E., Associate Professor, M.S., University of Illinois, 1952.
 Morrow, Carolyn, Assistant Professor, M.L.S., University of Illinois, 1977.
 Otto, Theophil M., Associate Professor, M.L.S., Indiana University, 1972.
 Person, Roland C., Associate Professor, M.A., University of Wisconsin, 1970.
 Peterson, Kenneth G., Professor, Ph.D., University of California at Berkeley, 1968.
 Pixley, Lorene, Assistant Professor, M.S., University of Illinois, 1960.
 Poteet, Susan S., Assistant Professor, M.L.S., George Peabody College, 1970.
 Poulos, Kathleen E., Researcher, M.S. in Ed., Southern Illinois University, 1969.
 Ray, Jean Meyer, Associate Professor, M.A., Southern Illinois University, 1976.
 Russell, Thyra K., Assistant Professor, M.A., Northern Illinois University, 1972.
 Scott, W. Wiley, Assistant Professor, M.S.L.S., Western Reserve University, 1959.
 Sharpe, Anne S., Researcher, B.F.A., Syracuse University, 1960.
 Shrock, Sharon A., Assistant Professor, Ph.D., Indiana University, 1979.
 Simon, Harriet F., Researcher, Ed.M., Harvard Graduate School of Education, 1956.
 Simon, John Y., Professor, Ph.D., Harvard University, 1961.
 Sims, Anne E., Instructor, M.A., University of Louisville, 1973.
 Starns, Matilda T., Assistant Professor, M.S., University of Illinois, 1963.
 Stonewater, Jerry K., Assistant Professor, Ph.D., Michigan State University, 1977.
 Stubbs, Walter R., Assistant Professor, M.A., Northern Illinois University, 1968.
 Tax, Andrew T., Assistant Professor, M.L.S., Charles University, Prague, 1962.
 Tharp, Charles C., Instructor, M.S.L.S., University of Illinois, 1951.
 Walsh, Bridget A., Researcher, M.A., Catholic University of America, 1967.
 Wilson, Betty Ruth, Assistant Professor, M.A., George Peabody College for Teachers, 1957.
 Wilson, David L., Research Associate, Ph.D., University of Tennessee, 1974.
 Winsor, Donald L., Associate Professor, Ed.D., University of Florida, 1961.
 Wood, Don E., Assistant Professor, M.S., University of Illinois, 1965.
 Woodbridge, Annie S., Researcher, M.A., George Peabody College for Teachers, 1936.
 Wursten, Richard B., Assistant Professor, M.S., University of Illinois, 1978.

Linguistics (College of Liberal Arts)

Angelis, Paul J., Associate Professor and *Chairperson*, Ph.D., Georgetown University, 1968.
 Carrell, Patricia L., Professor, Ph.D., University of Texas at Austin, 1966.
 Gilbert, Glenn G., Professor, Ph.D., Harvard University, 1963.
 Konneker, Beverly Hill, Assistant Professor, Ph.D., University of Texas at Austin, 1972.
 Nguyen, Dinh-Hoa, Professor, Ph.D., New York University, 1956.
 Parish, Charles, Professor, Ph.D., University of New Mexico, 1959.
 Perkins, Allen Kyle, Associate Professor, Ph.D., University of Michigan at Ann Arbor, 1976.
 Redden, James E., Professor, Ph.D., Indiana University, 1965.

Marketing (College of Business and Administration)

Adams, Kendall A., Professor, Ph.D., Michigan State University, 1962.
 Andersen, R. Clifton, Professor, D.B.A., Indiana University, 1960.
 Anderson, Carol M., Assistant Professor, Ph.D., Texas A & M University, 1981.
 Bergiel, Blaise, Assistant Professor, D.B.A., Mississippi State University, 1980.
 Dommermuth, William P., Professor and *Acting Chairperson*, Ph.D., Northwestern University, 1964.
 Hindersman, Charles H., Professor, D.B.A., Indiana University, 1959.
 Jenkins, Clyde, Assistant Professor, D.B.A., Texas Tech University, 1981.
 Moore, James R., Assistant Professor, Ph.D., University of Illinois, 1972.
 Perry, Donald L., Associate Professor, Ph.D., University of Illinois, 1966.
 Summey, John H., Assistant Professor, D.B.A., Arizona State University, 1974.
 Taylor, Ronald D., Assistant Professor, Ph.D., North Texas State University, 1978.
 Walters, C. Glenn, Professor, Ph.D., University of Illinois, 1964.

Mathematics (College of Liberal Arts)

Baartmans, Alphonse H., Associate Professor and *Chairperson*, Ph.D., Michigan State University, 1967.

Beckemeyer, Imogene C., Assistant Professor, M.A., Southern Illinois University, 1952.
 Black, Amos H., Professor, *Emeritus*, Ph.D., Cornell University, 1932.
 Burton, Theodore A., Professor, Ph.D., Washington State University, 1964.
 Crenshaw, James A., Associate Professor, Ph.D., University of Illinois, 1967.
 Danhof, Kenneth, Associate Professor, Ph.D., Purdue University, 1969.
 Dharmadhikari, Sudhakar, Professor, Ph.D., University of California at Berkeley, 1962.
 Earnest, Andrew, Assistant Professor, Ph.D., Ohio State University, 1975.
 Elston, George, Assistant Professor, M.S., University of Wisconsin, 1949.
 Feinsilver, Philip, Assistant Professor, Ph.D., New York University, 1975.
 Foland, Neal E., Professor, Ph.D., University of Missouri, 1961.
 Gates, Leslie D., Associate Professor, Ph.D., Iowa State University, 1952.
 Gregory, John, Professor, Ph.D., University of California at Los Angeles, 1969.
 Grimmer, Ronald C., Professor, Ph.D., University of Iowa, 1967.
 Hall, Dilla, Associate Professor, *Emeritus*, Ph.D., St. Louis University, 1955.
 Hooker, John W., Associate Professor, Ph.D., University of Oklahoma, 1967.
 Hunsaker, Worthen N., Associate Professor, Ph.D., Washington State University, 1966.
 Jeyaratnam, Sakthivel, Assistant Professor, Ph.D., Colorado State University, 1978.
 Kammler, David, Professor, Ph.D., University of Michigan, 1971.
 Kirk, Ronald B., Professor, Ph.D., California Institute of Technology, 1968.
 Koch, Charles, Assistant Professor, Ph.D., University of Illinois, 1961.
 Kuipers, Lauwerens, Professor, *Emeritus*, Ph.D., Vrije Universiteit (Amsterdam), 1947.
 Langenhop, Carl E., Professor, Ph.D., Iowa State University, 1948.
 Mark, Abraham M., Professor, Ph.D., Cornell University, 1947.
 Maxwell, Charles, Professor, Ph.D., University of Illinois, 1955.
 McDaniel, Wilbur C., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1939.
 Moore, Robert A., Associate Professor, Ph.D., Indiana University, 1962.
 Olmsted, John M. H., Professor, *Emeritus*, Ph.D., Princeton University, 1940.
 Paine, Thomas B., Assistant Professor, Ph.D., University of Oregon, 1966.
 Panchapakesan, S., Professor, Ph.D., Purdue University, 1969.
 Parker, George D., Associate Professor, Ph.D., University of California at San Diego, 1971.
 Patula, William T., Associate Professor, Ph.D., Carnegie-Mellon University, 1972.
 Pedersen, Franklin D., Associate Professor, Ph.D., Tulane University, 1967.
 Pedersen, Katherine, Associate Professor, Ph.D., Tulane University, 1969.
 Pericak-Spector, Kathleen, Assistant Professor, Ph.D., Carnegie-Mellon University, 1980.
 Redmond, Donald, Assistant Professor, Ph.D., University of Illinois, 1976.
 Simion, Rodica, Assistant Professor, Ph.D., University of Pennsylvania, 1981.
 Skalsky Michael, Professor, D.Nat.Sc., University of Göttingen, 1949.
 Slechticky, James L., Instructor, *Emeritus*, M.S., Washington University, 1940.
 Snyder, Herbert H., Professor, Ph.D., Lehigh University, 1965, Ph.D., University of South Africa, 1972.
 Spector, Scott J., Assistant Professor, Ph.D., Carnegie-Mellon University, 1978.
 Starks, Thomas H., Associate Professor, Ph.D., Virginia Polytechnic Institute, 1959.
 Wilson, Joseph C., Professor, Ph.D., Louisiana State University, 1954.
 Wimp, Larry L., Assistant Professor, *Emeritus*, M.A., University of Missouri, 1940, M.S., Southern Illinois University, 1959.
 Wright, Alice K., Assistant Professor, *Emerita*, M.A., University of Illinois, 1925.
 Yucas, Joseph, Assistant Professor, Ph.D., Pennsylvania State University, 1978.
 Zeman, Marvin, Assistant Professor, Ph.D., New York University (Courant Institute), 1974.

Microbiology (College of Science)

Borgia, Peter, Assistant Professor, Ph.D., University of Illinois, 1973.
 Brewer, Gregory, Associate Professor, Ph.D., University of California, 1972.
 Caster, John, Assistant Professor, Ph.D., St. Louis University, 1968.
 Clark, David, Assistant Professor, Ph.D., University of Bristol, Bristol, England, 1976.
 Cooper, Morris D., Associate Professor, Ph.D., University of Georgia at Athens, 1971.
 Jackson, Robert, Professor, Ph.D., Purdue University, 1963.
 Lev, Meir, Professor and *Chairperson*, Ph.D., University of Reading (England), 1957.
 Lindegren, Carl C., Professor, *Emeritus*, Ph.D., California Institute of Technology, 1931.
 Madigan, Michael T., Assistant Professor, Ph.D., University of Wisconsin, 1976.
 Martinko, John M., Assistant Professor, Ph.D., State University of New York at Buffalo, 1978.
 McClary, Dan O., Professor, *Emeritus*, Ph.D., Washington University, 1951.
 McConnachie, Peter, Associate Professor, Ph.D., University of Alberta, Canada.
 Moticka, Edward A., Associate Professor, Ph.D., University of Illinois at the Medical Center, 1970.
 Myers, Walter L., Professor, D.V.M., Ph.D., University of Wisconsin, 1961.

Parker, Jack M., Associate Professor, Ph.D., Purdue University, 1973.
 Rouhandeh, Hassan, Professor, Ph.D., Kansas State University, 1959.
 Rowan, Dighton F., Professor, Ph.D., Stanford University, 1954.
 Shechmeister, Isaac L., Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1949.
 Tewari, Ram, Professor, D.V.M., Agra University, India, 1960; Ph.R., Ohio State University, 1966.

Mining Engineering (College of Engineering and Technology)

Caudle, Rodney D., Associate Professor and *Acting Chairperson*, M.S., University of Illinois, 1952.
 Chugh, Yoginder P., Professor, Ph.D., Pennsylvania State University, 1971.
 Sinha, Atmesh K., Associate Professor, Ph.D., University of Sheffield, 1963.

Music (College of Communications and Fine Arts)

Allison, Robert, Instructor, M.M., University of Illinois, 1979.
 Barwick, Steven, Professor, Ph.D., Harvard University, 1949.
 Bateman, Marianne Webb, Professor, M.Mus., University of Michigan, 1959.
 Beattie, Donald, Visiting Assistant Professor, M.Mus., University of Colorado, 1977.
 Bergt, Robert, Associate Professor, S.T.M., Concordia Seminary, 1958.
 Blum, Michael, Visiting Instructor, M.Mus., Southern Illinois University at Carbondale, 1979.
 Bottje, Will Gay, Professor, *Emeritus*, A.Mus.D., Eastman School of Music, 1955.
 Breznikar, Joseph, Assistant Professor, M.Mus., University of Akron, 1977.
 Coker, Wilson W., Professor, D.M.A., University of Illinois, 1965.
 Denker, Fred, Professor, *Emeritus*, Ph.D., Eastman School of Music, 1951.
 Eddins, John, Assistant Professor, Ph.D., Florida State University, 1966.
 Fligel, Charles, Assistant Professor, M.M., University of Kentucky, 1966.
 Gordon Roderick, Professor, Ph.D., University of Wisconsin, 1953.
 Grizzell, Mary Jane, Assistant Professor, M.Mus., Eastman School of Music, 1943.
 Hanes, Michael, Assistant Professor, M.M.E., Southern Illinois University, 1965.
 Hartline, Elisabeth, Assistant Professor, *Emerita*, M.Mus., Northwestern University, 1936.
 Hay, Beverly, Assistant Professor, M.M., University of South Carolina, 1976.
 House, Mary Elaine Wallace, Professor, *Emerita*, M.Mus., University of Illinois, 1954.
 Hunt, C. B., Jr., Professor, Ph.D., University of California, Los Angeles, 1949.
 Hussey, George, Associate Professor, M.A.Ed., Washington University, 1963.
 Kingsbury, Robert, Associate Professor, M.Mus., Northwestern University, 1952.
 Mandat, Eric, Assistant Professor, M.M., Yale University, 1981.
 McHugh, Catherine, Professor, Ed.D., Columbia University, 1959.
 Mellado, Daniel, Assistant Professor, Ph.D., Michigan State University, 1979.
 Mueller, Robert, Professor, Ph.D., Indiana University, 1954.
 Nadaf, George, Visiting Lecturer, M.M., Manhattan School of Music, 1956.
 Olsson, Phillip, Professor, *Emeritus*, M.Mus., Chicago Conservatory, 1949.
 Poulos, Helen, Associate Professor, D.M., Indiana University, 1971.
 Resnick, Robert, Professor, *Emeritus*, M.Mus., Wichita State University, 1949.
 Romersa, Henry, Visiting Associate Professor, M.M.Ed., Oberlin College, 1955.
 Roubos, Robert, Professor and *Director*, D.M.A., University of Michigan, 1966.
 Siener, Melvin, Associate Professor, M.A., University of Iowa, 1954.
 Simmons, Margaret, Visiting Assistant Professor, M.M., University of Illinois, 1976.
 Taylor, Charles, Associate Professor, Ed.D., Columbia University, 1950.
 Underwood, Jervis, Professor, Ph.D., North Texas State University, 1970.
 Weiss, Robert, Instructor, M.S., University of Illinois, 1974.
 Werner, Kent, Associate Professor, Ph.D., University of Iowa, 1966.
 Wharton, John, Associate Professor, *Emeritus*, M.Mus., American Conservatory, 1940.
 Williams, David N., Assistant Professor, M.Mus., University of Wichita, 1964.

Office of Teacher Education (College of Education)

Cherry, Aveniel A., Lecturer, M.S. in Ed., Southern Illinois University, 1962.
 Giles, M. Frances, *Coordinator*, Teacher Education Services, M.A., Southern Illinois University, 1969.
 Jenkins, Jeannette, Lecturer, M.Ed., Pennsylvania State University, 1948.

Mueller, Ruth M., Academic Adviser, B.S. Milwaukee State Teachers College, 1944.
 Roy, Thomas Michael, Lecturer, M.S. in Ed., Southern Illinois University, 1975.
 Turner, Doris Sewell, Lecturer, M.S. in Ed., Southern Illinois University, 1949.

Philosophy (College of Liberal Arts)

Becker, Carl B., Assistant Professor, Ph.D., University of Hawaii, 1981.
 Clarke, David S., Jr., Professor, Ph.D., Emory University, 1964.
 Diefenbeck, James A., Professor and *Chairperson*, Ph.D., Harvard University, 1950.
 Eames, Elizabeth R., Professor, Ph.D., Bryn Mawr College, 1951.
 Eames, S. Morris, Professor, Ph.D., University of Chicago, 1958.
 Frondizi, Risieri, Professor *Emeritus*, Ph.D., National University of Mexico, 1950.
 Gillan, Garth J., Associate Professor, Ph.D., Duquesne University, 1966.
 Hahn, Lewis E., Professor, *Emeritus*, Ph.D., University of California, 1939.
 Hahn, Robert A., Assistant Professor, Ph.D., Yale University, 1976.
 Hayward, John, Professor, Ph.D., University of Chicago, 1949.
 Howie, John, Associate Professor, Ph.D., Boston University, 1965.
 Johnson, Mark, Assistant Professor, Ph.D., University of Chicago, 1977.
 Kelly, Matthew J., Associate Professor, Ph.D., University of Notre Dame, 1963.
 McClure, George T., Professor, Ph.D., Ohio State University, 1958.
 Moore, Willis, Professor, *Emeritus*, Ph.D., University of California, 1936.
 Plochmann, George Kimball, Professor, Ph.D., University of Chicago, 1950.
 Schedler, George, Associate Professor, Ph.D., University of California at San Diego, 1973.
 Schilpp, Paul A., Professor, *Emeritus*, Ph.D., Stanford University, 1936.
 Tenney, Charles, University Professor, *Emeritus*, Ph.D., University of Oregon, 1931.
 Tuana, Nancy A., Assistant Professor, University of California at Santa Barbara, 1979.
 Tyman, Stephen, Assistant Professor, University of Toronto, 1980.

Physical Education (College of Education)

Ackerman, Kenneth, Assistant Professor, M.A., Michigan State University, 1959.
 Baker, John A. W., Assistant Professor, Ph.D., University of Iowa, 1980.
 Blackman, Claudia J., Instructor, M.S.Ed., Southern Illinois University, 1968.
 Brechtelsbauer, Kay M., Instructor, Ph.D., Southern Illinois University, 1980.
 Carroll, Peter, Assistant Professor, Ph.D., Pennsylvania State University, 1970.
 Davies, Dorothy R., Professor, *Emerita*, Ed.D., University of Cincinnati, 1944.
 Dirks, W. Edward, Instructor, M.S., Southern Illinois University, 1964, Certificate, Physical Therapy, Ohio State University, 1965.
 Franklin, C. C., Associate Professor, M.S.Ed., Indiana University, 1946.
 Franklin, Marcile, Instructor, M.S.Ed., Indiana University, 1944.
 Good, Larry, Associate Professor, Ph.D., Temple University, 1968.
 Hartzog, Lewis, Instructor, M.E., Colorado State University, 1954.
 Idoine, Sallie, Assistant Professor, M.M., Florida State University, 1972.
 Illner, Julee Ann, Instructor, M.S.Ed., Southern Illinois University, 1968.
 Klagge, Connie, Instructor, Ph.D., Pennsylvania State University, 1982.
 Knowlton, Ronald, Professor, Ph.D., University of Illinois, 1961.
 Kostalik, Linda, Assistant Professor, M.F.A., University of California at Irvine, 1973.
 Long, Linn, Instructor, M.S., University of Colorado, 1967.
 Meade, William, Assistant Professor, M.A.Ed., University of North Carolina, 1950.
 Okita, Ted, Associate Professor, M.A., Northwestern University, 1964.
 Potter, Marjorie Bond, Professor, *Emerita*, Ph.D., University of Southern California, 1958.
 Shea, Edward, Professor, Ph.D., New York University, 1955.
 Stotlar, John, Associate Professor, *Emeritus*, D.P.Ed., Indiana University, 1954.
 Thrir, Joel, Assistant Professor, Ph.D., Florida State University, 1976.
 Thorpe, Jo Anne Lee, Professor, Ph.D., Texas Woman's University, 1964.
 Ulrich, Dale A., Assistant Professor, Ph.D., Michigan State University, 1980.
 Wade, Michael G., Professor and *Chairperson*, Ph.D., University of Illinois, 1970.
 West, Charlotte, Professor, Ph.D., University of Wisconsin, 1969.
 Zimmerman, Helen, Professor, *Emerita*, Ph.D., University of Wisconsin, 1951.

Physics and Astronomy (College of Science)

Arvin, Martin J., Professor, *Emeritus*, Ph.D., University of Illinois, 1934.
 Borst, Walter L., Professor, Ph.D., University of California, Berkeley, 1968.

Bose, Subir K., Professor, Ph.D., University of Allhabad, India, 1967.
 Brasefield, Charles J., Professor, *Emeritus*, Ph.D., Princeton University, 1927.
 Cutnell, John D., Associate Professor, Ph.D., University of Wisconsin, 1967.
 Gruber, Bruno J., Professor, Ph.D., University of Vienna, Austria, 1962.
 Henneberger, Walter C., Professor, Ph.D., Göttingen University, Germany, 1959.
 Johnson, Kenneth W., Associate Professor, Ph.D., Ohio State University, 1967.
 Malik, F. Bary, Professor and *Chairperson*, Ph.D., Göttingen University, West Germany, 1958.
 Nickell, William E., Professor, Ph.D., University of Iowa, 1954.
 Sanders, Frank C., Jr., Associate Professor, Ph.D., University of Texas, 1968.
 Saporoschenko, Mykola, Professor, Ph.D., Washington University, 1958.
 Telschow, Kenneth L., Assistant Professor, Ph.D., University of California, Los Angeles, 1973.
 Watson, Richard E., Professor, *Emeritus*, Ph.D., University of Illinois, 1938.
 Young, Otis B., Professor, *Emeritus*, Ph.D., University of Illinois, 1928.
 Zitter, Robert N., Professor, Ph.D., University of Chicago, 1962.

Physiology (College of Science)

Banerjee, Chandra M., Professor, Ph.D., Medical School of Virginia, Richmond, 1967.
 Bone, Leon, Associate Professor, Ph.D., University of Arkansas, 1976.
 Browning, Ronald A., Associate Professor, Ph.D., University of Illinois Medical Center, Chicago, 1971.
 Caspary, Donald M., Associate Professor, Ph.D., New York University, 1971.
 Cline, William H., Professor, Ph.D., West Virginia University, 1965.
 Coulson, L. Richard, Associate Professor, Ph.D., University of Toronto, 1971.
 Cox, Thomas C., Assistant Professor, Ph.D., University of Arizona, 1979.
 Doorenbos, Norman, Professor, Ph.D., University of Michigan, 1954.
 Dunagan, Tommy T., Professor, Ph.D., Purdue University, 1960.
 Dunaway, George A., Associate Professor, Ph.D., University of Oklahoma, 1970.
 Ellert, Mark S., Associate Professor, Ph.D., University of Miami, 1967.
 Faingold, Carl L., Associate Professor, Ph.D., Northwestern University, Chicago, 1970.
 Falvo, Richard E., Associate Professor, Ph.D., University of Wyoming, 1970.
 Foote, Florence M., Professor, *Emerita*, Ph.D., University of Iowa, 1940.
 Gill, Sarjeet S., Assistant Professor, Ph.D., University of California, Berkeley, 1973.
 Hunter, William S., Associate Professor, Ph.D., Michigan State University, 1971.
 Kaplan, Harold M., Professor, *Emeritus*, Ph.D., Harvard University, 1933.
 Lee, Tony J-F., Associate Professor, Ph.D., West Virginia University, Morgantown, 1973.
 Miller, Donald M., Professor, Ph.D., University of Illinois, 1965.
 Myers, J. Hurley, Associate Professor, Ph.D., University of Tennessee, 1969.
 Nequin, Lynn G., Associate Professor, Ph.D., University of Illinois Medical Center, Chicago, 1970.
 Nickols, G. Allen, Assistant Professor, Ph.D., University of Missouri, Columbia, 1977.
 Peterson, Rudolph N., Professor, Ph.D., University of Florida, Gainesville, 1965.
 Richardson, Alfred W., Professor, Ph.D., University of Iowa, 1949.
 Russell, Lonnie, Professor, Ph.D., University of Nebraska, 1974.
 Sollberger, Arne, Professor, M.D., Caroline Institute, Sweden, 1957.
 Soman, Satu M., Associate Professor, Ph.D., Liverpool University, Liverpool, England, 1967.
 Strack, Louis E., Associate Professor, D.V.M., University of Illinois, 1961.
 Su, Che, Professor, Ph.D., University of California, Los Angeles, 1965.
 Venable, William, Assistant Professor, Ph.D., Southern Illinois University, Carbondale, 1976.
 Wade, David R., Associate Professor, Ph.D., Cambridge University, England, 1967.
 Yau, William M., Associate Professor, Ph.D., Medical College of Virginia, 1971.

Plant and Soil Science (School of Agriculture)

Canagir, Mevlit, Assistant Professor, Ph.D., University of Michigan, 1980.
 Caster, Alfred B., Professor, *Emeritus*, Ph.D., University of Arizona, 1941.
 Coorts, Gerald D., Professor and *Chairperson*, Ph.D., University of Illinois, 1964.
 Elkins, Donald M., Professor, Ph.D., Auburn University, 1967.
 Hillyer, Irvin G., Professor, Ph.D., Michigan State University, 1956.
 Jones, Joe H., Professor, Ph.D., Ohio State University, 1960.
 Kapusta, George, Professor, Ph.D., Southern Illinois University, 1975.

Klubek, Brian P., Assistant Professor, Ph.D., Utah State University, 1977.
 Leasure, J. K., Professor, *Emeritus*, Ph.D., University of Illinois, 1953.
 Mowry, James B., Professor, *Emeritus*, Ph.D., Rutgers University, 1951.
 Myers, Oval, Jr., Professor, Ph.D., Cornell University, 1963.
 Olsen, Farrel J., Professor, Ph.D., Rutgers University, 1961.
 Portz, Herbert L., Professor, Ph.D., University of Illinois, 1954.
 Preece, John E., Assistant Professor, Ph.D., University of Minnesota, 1980.
 Stucky, Donald J., Professor, Ph.D., Purdue University, 1963.
 Taylor, Bradley H., Assistant Professor, Ph.D., Ohio State University, 1982.
 Tweedy, James A., Professor, Ph.D., Michigan State University, 1966.
 Varsa, Edward C., Assistant Professor, Ph.D., Michigan State University, 1970.
 Wilkerson, Don C., Assistant Professor, Ph.D., Louisiana State University, 1981.

Political Science (College of Liberal Arts)

Alexander, Orville, Professor, *Emeritus*, Ph.D., University of Iowa, 1936.
 Baker, John H., Associate Professor, Ph.D., Princeton University, 1961.
 Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, 1969.
 Bianchi, Rino, Instructor, *Emeritus*, M.A., Southern Illinois University, 1961.
 Chou, Ikua, Professor, Ph.D., Fletcher School of Law and Diplomacy, 1949.
 Dale, Richard, Associate Professor, Ph.D., Princeton University, 1962.
 Derge, David Richard, Professor, Ph.D., Northwestern University, 1955.
 Desai, Uday, Assistant Professor, Ph.D., University of Pittsburgh, 1973.
 Ervin, Osbin L., Associate Professor, Ph.D., University of Tennessee, 1974.
 Foster, John L., Associate Professor and *Chairperson*, Ph.D., University of Minnesota, 1971.
 Garner, William R., Associate Professor, Ph.D., Tulane University, 1963.
 Hanson, Earl Thomas, Professor, *Emeritus*, Ph.D., University of Illinois, 1948.
 Hardenbergh, William, Professor, Ph.D., University of Illinois, 1954.
 Herzik, Eric B., Assistant Professor, Ph.D., University of North Carolina, 1982.
 Jackson, John S., III, Professor, Ph.D., Vanderbilt University, 1971.
 Jacobini, Horace B., Professor, Ph.D., University of Kansas, 1951.
 Jones, Judson H., Assistant Professor, Ph.D., University of Oregon, 1976.
 Kamarasy, Egon K., Assistant Professor, Doctor Politics, Budapest University, Hungary, 1942.
 Klingberg, Frank L., Professor, *Emeritus*, Ph.D., University of Chicago, 1938.
 Landecker, Manfred, Associate Professor, Ph.D., Johns Hopkins University, 1965.
 Mace, George R., Associate Professor, Ph.D., Claremont Graduate School, 1963.
 Mason, Ronald M., Associate Professor, Ph.D., University of Iowa, 1976.
 McGrath, Robert A., Professor, *Emeritus*, Ph.D., University of Iowa, 1947.
 Melone, Albert, Associate Professor, Ph.D., University of Iowa, 1972.
 Miller, Roy E., Associate Professor, Ph.D., University of Illinois, 1971.
 Morton, Ward M., Professor, *Emeritus*, Ph.D., University of Texas, 1941.
 Nelson, Randall H., Professor, Ph.D., University of Michigan, 1956.
 Paine, Joann P., Associate Professor, Ph.D., University of Oregon, 1967.
 Roper, Robert, Assistant Professor, Ph.D., University of Kentucky, 1978.
 Seroka, James H., Associate Professor, Ph.D., Michigan State University, 1976.
 Somit, Albert, Professor, Ph.D., University of Chicago, 1947.
 Stauber, Leland G., Associate Professor, Ph.D., Harvard University, 1964.
 Turley, William S., Associate Professor, Ph.D., University of Washington, 1972.

Psychology (College of Liberal Arts)

Bekker, L. DeMoyné, Associate Professor, Ph.D., Ohio State University, 1968.
 Bliss, David K., Associate Professor, Ph.D., University of California at Berkeley, 1968.
 Bruten, Gene J., Professor, Ph.D., University of Illinois, 1957.
 Buck, Terence D., Associate Professor, Ph.D., University of Missouri, 1968.
 Carrier, Neil A., Professor, Ph.D., University of Michigan, 1956.
 Cunningham, Jean, Assistant Professor, Ph.D., University of Utah, 1981.
 Dillon, Ronna, Associate Professor, Ph.D., University of California, Riverside, 1978.
 Dollinger, Stephen J., Associate Professor, Ph.D., University of Missouri-Columbia, 1977.
 Dunagan, Shirley S., Instructor, M.S., University of Tennessee, 1954.
 Ehrenfreund, David, Professor, *Emeritus*, Ph.D., State University of Iowa, 1947.
 Gannon, Linda, Associate Professor, Ph.D., University of Wisconsin, 1975.
 Graham, Jack W., Professor, Ph.D., Purdue University, 1951.
 Hamilton, Mary Kathryn, Assistant Professor, Ph.D., University of Missouri, Columbia, 1975.

Haynes, Stephen N., Professor, Ph.D., University of Colorado, 1971.
 Jensen, Robert A., Assistant Professor, Ph.D., Northern Illinois University, 1976.
 Kelley, Noble H., Professor, *Emeritus*, Ph.D., State University of Iowa, 1936.
 Lit, Alfred, Professor, Ph.D., Columbia University, 1948.
 Lorber, Rudy, Assistant Professor, Ph.D., University of Oregon, 1981.
 McCarthy, Patricia R., Assistant Professor, Ph.D., Ohio State University, 1978.
 McHose, James H., Professor and *Chairperson*, Ph.D., University of Iowa, 1961.
 McKillip, John A., Associate Professor, Ph.D., Loyola University of Chicago, 1974.
 Meltzer, Donald, Professor, Ph.D., University of Pittsburgh, 1963.
 Mitchell, Thomas O., Associate Professor, Ph.D., University of Colorado, 1969.
 Molfese, Dennis L., Professor, Ph.D., Pennsylvania State University, 1972.
 Molfese, Victoria J., Associate Professor, Ph.D., Pennsylvania State University, 1974.
 O'Donnell, James P., Associate Professor, Ph.D., University of Pittsburgh, 1965.
 Pitz, Gordon F., Professor, Ph.D., Carnegie-Mellon University, 1963.
 Purcell, Thomas D., Associate Professor, Ph.D., Southern Illinois University, 1965.
 Radtke, Robert C., Associate Professor, Ph.D., State University of Iowa, 1963.
 Rafferty, Janet E., Professor, Ph.D., Ohio State University, 1952.
 Ramanaiah, Nerella, Associate Professor, Ph.D., University of Oregon, 1971.
 Randers, Susan Bahn, Assistant Professor, Ph.D., University of Maryland, 1976.
 Ringuette, Eugene L., Associate Professor, Ph.D., Purdue University, 1963.
 Schill, Thomas R., Professor, Ph.D., Oklahoma State University, 1963.
 Schmeck, Ronald R., Professor, Ph.D., Ohio University, 1969.
 Shoemaker, Donald J., Professor, Ph.D., Ohio State University, 1955.
 Slaney, Robert B., Assistant Professor, Ph.D., Ohio State University, 1973.
 Smith, Douglas C., Assistant Professor, Ph.D., Kansas State University, 1977.
 Snyder, John F., Associate Professor, Ph.D., Loyola University, 1965.
 Tinsley, Diane J., Assistant Professor, Ph.D., University of Minnesota, 1972.
 Tinsley, Howard E. A., Professor, Ph.D., University of Minnesota, 1971.
 Vaux, Alan C., Assistant Professor, Ph.D., Trinity College, Ireland, 1978; Ph.D., University of California at Irvine, 1980.
 Westberg, William C., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948.
 Wendt, Rachel, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1966.
 Yanico, Barbara, Assistant Professor, Ph.D., Ohio State University, 1977.

Radio-Television (College of Communications and Fine Arts)

Brown, William Edward, Assistant Professor, M.S., Southern Illinois University, 1974.
 Dybvig, Homer E., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1970.
 Garry, Kenneth, Lecturer, M.S., Indiana State University, 1966.
 Hildreth, Richard, Assistant Professor, M.S., Syracuse University, 1968.
 Holmes, John, Academic Adviser, M.A., Southern Illinois University, 1970.
 Johnson, M. William, Assistant Professor, Ph.D., University of Wisconsin, 1982.
 Kwiatek, Kathy, Assistant Professor, Ph.D., University of Michigan, 1982.
 Oglesbee, Frank W., Assistant Professor, Ph.D., University of Missouri, 1969.
 Richardson, Alan, Assistant Professor, Ph.D., Ohio University, 1977.
 Shipley, Charles W., Professor, Ph.D., Florida State University, 1971.
 Sitaram, K. S., Professor, Ph.D., University of Oregon, 1969.
 Swan, N. Sam, Associate Professor and *Chairperson*, Ph.D., University of Missouri, 1978.
 Walker, Myers, Instructor, M.F.A., Southern Illinois University, 1971.
 Warner, Charles, Assistant Professor, M.A., Southern Illinois University.
 Welker, Randy, Assistant Professor, J.D., Southern Illinois University at Carbondale, 1981.

Recreation (College of Education)

Abernathy, William, Assistant Professor, M.S.Ed., Southern Illinois University, 1963.
 Allen, John R., Associate Professor, Ph.D., Southern Illinois University, 1977.
 Cleary, Leonard E., Assistant Professor, Ph.D., University of Illinois, 1978.
 Freeberg, William, Professor, *Emeritus*, D.Rec., Indiana University, 1950.
 Kinney, Walter, Assistant Professor, Ph.D., New York University, 1976.
 Loveland, N. Jean, Assistant Professor, D.Rec., Indiana University, 1975.
 McEwen, Douglas, Associate Professor, Ph.D., Michigan State University, 1973.
 O'Brien, William, Professor and *Chairperson*, D.Rec., Indiana University, 1967.
 Teaff, Joseph, Associate Professor, Ed.D., Columbia University, 1973.

Rehabilitation Institute (College of Human Resources)

- Allen, Harry A., Associate Professor, Ed.D., University of Arkansas, 1971.
 Baker, Richard J., Associate Professor, Ed.D., Auburn University, 1972.
 Bender, Eleanor, Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1962.
 Bryson, Seymour L., Associate Professor, Ph.D., Southern Illinois University, 1972.
 Colvin, Robert H., Assistant Professor, Ph.D., Southern Illinois University, 1971.
 Crimando, William, Assistant Professor, Ph.D., Michigan State University, 1980.
 Cuvo, Anthony J., Associate Professor, Ph.D., University of Connecticut, 1973.
 Dickey, Thomas W., Assistant Professor, *Emeritus*, M.A., Southern Illinois University, 1964.
 Falvo, Donna R., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1978.
 Gardner, Margaret S., Associate Professor, Ph.D., Northwestern University, 1960.
 Goldman, Samuel, Professor, Ph.D., University of Chicago, 1961.
 Greene, Brandon F., Assistant Professor, Ph.D., Florida State University, 1979.
 Greffell, John E., Professor, Ed.D., Oregon State University, 1966.
 Hafer, Marilyn, Associate Professor, Ph.D., Texas Tech University, 1971.
 Hawley, Irene B., Assistant Professor, Ph.D., Southern Illinois University, 1973.
 Lee, Robert E., Associate Professor, *Emeritus*, Ph.D., University of Minnesota, 1964.
 Lorenz, Jerome R., Professor and *Director*, Ph.D., University of Wisconsin, 1973.
 Lutzker, John R., Associate Professor, Ph.D., University of Kansas, 1973.
 Maki, Dennis R., Assistant Professor, Ph.D., University of Wisconsin-Madison, 1979.
 Miranti, Joseph P., Professor, *Emeritus*, M.D., Loyola University of Chicago, 1950.
 Peterson, James S., Assistant Professor, Ph.D., Southern Illinois University, 1976.
 Phillips, J. Stuart, Assistant Professor, Ph.D., Florida State University, 1980.
 Poppen, Roger L., Associate Professor, Ph.D., Stanford University, 1968.
 Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.
 Riggall, Theodore F., Associate Professor, Ed.D., University of Northern Colorado, 1977.
 Rubin, Harris B., Professor, Ph.D., University of Chicago, 1965.
 Rubin, Stanford E., Professor, Ed.D., University of Illinois, 1968.
 Sawyer, Horace W., Associate Professor, Ed.D., Auburn University, 1973.
 Schumacher, Brockman, Professor, Ph.D., Washington University, 1969.
 Viecei, Louis, Associate Professor, M.S.Ed., Southern Illinois University, 1959.

Religious Studies (College of Liberal Arts)

- Bengtson, Dale R., Assistant Professor, Ph.D., Hartford Seminary Foundation, 1971.
 Hayward, John F., Professor and *Chairperson*, Ph.D., University of Chicago, 1949.
 Morey-Gaines, Ann-Janine, Assistant Professor, Ph.D., University of Southern California, 1979.

Social and Community Services (College of Human Resources)

- Auerbach, Arnold J., Professor, *Emeritus*, Ph.D., University of Pittsburgh, 1961.
 Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, India, 1969.
 Brelje, Martha Brose, Assistant Professor, M.S.W., Indiana University, 1963.
 Brown, Foster S., Jr., Assistant Professor, Ph.D., Southern Illinois University, 1978.
 Denise, Paul S., Assistant Professor, Ph.D., University of California at Berkeley, 1974.
 Edmondson, Locksley, Professor, Ph.D., Queen's University, Ontario, Canada, 1973.
 Ehrlich, Ira F., Professor, D.S.W., Washington University, 1970.
 Fauri, David P., Professor, Ph.D., Syracuse University, 1972.
 Gross, Carol, Assistant Professor, Ph.D., Indiana State University, 1980.
 Gunter, Patricia, Assistant Professor, Ph.D., Southern Illinois University, 1980.
 McDermott, Carol, Instructor, M.S.S.S., Boston University, 1951.
 Mootry, Maria, Assistant Professor, Ph.D., Northwestern University, 1974.
 Rosen, Anita L., Assistant Professor, Ph.D., Southern Illinois University, 1975.
 Thomas, Richard M., Professor, D.Ed., University of California at Los Angeles, 1964.
 Warshawsky, Robert, Assistant Professor, D.S.W., Tulane University, 1978.

Sociology (College of Liberal Arts)

Alix, Ernest K., Associate Professor, Ph.D., Southern Illinois University, 1966.
 Brooks, Melvin, Associate Professor, Ph.D., University of Wisconsin, 1941.
 Burger, Thomas, Associate Professor, Ph.D., Duke University, 1972.
 Eynon, Thomas G., Professor, Ph.D., Ohio State University, 1959.
 Grant, Linda M., Assistant Professor, Ph.D., University of Michigan, 1981.
 Hawkes, Roland K., Associate Professor, Ph.D., Johns Hopkins University, 1967.
 Hendrix, Lewellyn, Associate Professor, Ph.D., Princeton University, 1974.
 Johnson, Elmer H., Professor, Ph.D., University of Wisconsin, 1950.
 Lantz, Herman R., Professor, Ph.D., Ohio State University, 1950.
 Meddin, Jay R., Associate Professor, Ph.D., University of Kentucky, 1973.
 Munch, Peter A., Professor, *Emeritus*, Ph.D., University of Oslo, 1946.
 Nall, Frank C., II, Associate Professor, Ph.D., Michigan State University, 1959.
 Patterson, Edgar I., Instructor, M.A., University of Kansas, 1961.
 Shalin, Dmitri N., Assistant Professor, Ph.D., U.S.S.R. Academy of Science, 1973.
 Shelby, Lon R., Professor, Ph.D., University of North Carolina, 1962.
 Snyder, Charles R., Professor and *Chairperson*, Ph.D., Yale University, 1954.
 Ward, Kathryn B., Assistant Professor, Ph.D., University of Iowa, 1982.

Special Education (College of Education)

Bates Paul, Associate Professor, Ph.D., University of Wisconsin, 1978.
 Cordoni, Barbara, Associate Professor, Ed.D., Duke University, 1976.
 Casey, John P., Professor, Ed.D., Indiana University, 1973.
 Crowner, James, Professor, Ph.D., Michigan State University, 1960.
 Ewing, Norma J., Associate Professor and *Chairperson*, Ph.D., Southern Illinois University, 1974.
 Hisama, Toshiaki, Associate Professor, Ph.D., University of Oregon, 1971.
 Joiner, Lee M., Professor, Ph.D., Michigan State University, 1966.
 Juul, Kristen D., Professor, Ed.D., Wayne State University, 1953.
 McKay, Elizabeth B., Associate Professor, *Emerita*, Ph.D., Syracuse University, 1952.
 Miller, Sidney R., Associate Professor, Ph.D., Pennsylvania State University, 1974.
 Morgan, Howard, Professor, Ed.D., Wayne State University, 1962.
 Sedlak, Robert A., Associate Professor, Ph.D., Pennsylvania State University, 1973.
 Stoneburner, Robert L., Associate Professor, Ph.D., University of Illinois, 1974.
 Teska, James, Associate Professor, Ph.D., University of Illinois, 1969.

Speech Communication (College of Communications and Fine Arts)

Breniman, Lester R., Associate Professor, *Emeritus*, Ph.D., Ohio State University, 1953.
 Buckley, David, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1981.
 Bytwerk, Randall L., Associate Professor, Ph.D., Northwestern University, 1975.
 Crow, Bryan, Assistant Professor, Ph.D., University of Iowa, 1981.
 Deetz, Stanley A., Associate Professor, Ph.D., Ohio University, 1973.
 Goodiel, Eunice B., Assistant Professor, *Emerita*, M.A., Northwestern University, 1941.
 Higgerson, Mary Lou, Associate Professor, Ph.D., University of Kansas, 1974.
 Holdridge, William E., Assistant Professor, Ph.D., University of Illinois, 1974.
 Kleinau, Marion L., Professor, Ph.D., University of Wisconsin, 1961.
 Kleinau, Marvin D., Associate Professor, Ph.D., Southern Illinois University, 1977.
 Lance, Elizabeth, Assistant Professor, Ph.D., Purdue University, 1975.
 Lanigan, Richard L., Professor, Ph.D., Southern Illinois University, 1969.
 MacDonald, Donald, Associate Professor, Ph.D., Michigan State University, 1971.
 Micken, Ralph A., Professor, *Emeritus*, Ph.D., Northwestern University, 1948.
 Pace, Thomas J., Professor, Ph.D., University of Denver, 1957.
 Parkinson, Michael G., Associate Professor, Ph.D., University of Oklahoma, 1978.
 Pelias, Ronald J., Assistant Professor, Ph.D., University of Illinois, 1979.
 Potter, David J., Professor, *Emeritus*, Ph.D., Columbia University, 1943.
 Sanders, Keith R., Professor, Ph.D., University of Pittsburgh, 1968.

Smith, William D., Associate Professor, Ph.D., Southern Illinois University, 1964.
 Talley, C. Horton, Professor, *Emeritus*, Ph.D., State University of Iowa, 1936.
 VanOosting, James, Assistant Professor, Ph.D., Northwestern University, 1980.
 Wiley, Raymond D., Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1965.

Technical Careers (School of Technical Careers)

Adams, Deborah K., Field Representative, B.S., Southern Illinois University, 1977.
 Ahlstrand, Charles T., Visiting Assistant Professor, M.Ed., Middle Tennessee State University, 1980.
 Alden, Elaine F., Associate Professor, Ph.D., University of Pittsburgh, 1971.
 Aversa, Colleen, Field Representative, B.S.
 Bowman, Terry S., Visiting Assistant Professor, M.A., Webster College, 1979.
 Broker, Rodney, Academic Adviser, M.A., University of Alabama, 1976.
 Brown, Kevin, Visiting Instructor, M.B.A., Southern Illinois University at Edwardsville, 1977.
 Dallman, Murnice, Associate Professor, M.S., Southern Illinois University, 1959.
 Davis, Harry E., Visiting Assistant Professor, M.H.A., Washington University Medical School, 1961.
 Eggers, Stephen Charles, Visiting Assistant Professor, M.B.A., Southern Illinois University, 1978.
 Falkenberry, William A., Academic Adviser, M.S., Southern Illinois University, 1980.
 Hertz, Vivienne, Assistant Professor, Communications, Ph.D., Southern Illinois University, 1980.
 Hollar, Otis R., Visiting Assistant Professor, M.Ed., Central Washington University, 1968.
 Laedtke, Ralph, Visiting Assistant Professor, M.A., Webster College, 1977.
 Layer, Robert G., Professor, Ph.D., Harvard University, 1952.
 Lee, Lynda L., Visiting Assistant Professor, M.A., Webster College, 1979.
 Manning, Michael, Visiting Assistant Professor, M.B.A., California State University at Hayward, 1975.
 McDougale, Larry G., Professor, Ph.D., University of Toledo, 1971.
 Merritt, E. Hollis, Assistant Dean, Ph.D., Indiana University.
 Moore, Mary Ann, Visiting Assistant Professor, M.Ed., Georgia State University, 1969.
 NewMyer, David, Visiting Assistant Professor, M.S., Northwestern University, 1974.
 Novick, Jehiel, Assistant Professor, Ph.D., Southern Illinois University, 1970.
 Quintenz, Constance, Academic Adviser, M.S., Southern Illinois University, 1982.
 Reeder, Ronald C., Visiting Assistant Professor, M.S. in Ed., Southern Illinois University, 1971.
 Reynolds, R. John, Visiting Professor, Ph.D., Southern Illinois University, 1971.
 Robb, James A., Associate Professor, Ph.D., Southern Illinois University, 1974.
 Skelton, John, Visiting Assistant Professor, M.A., Georgetown University, 1974.
 Soderstrom, Ruth, Academic Adviser, M.S., New York University, 1939.
 Stein, Stuart B., Visiting Assistant Professor, M.S., Southern Illinois University, 1977.
 Sutton, John R., Associate Professor, Ph.D., Southern Illinois University, 1977.
 Svec, Christine L., Research Project Specialist, M.S., Southern Illinois University, 1975.
 Tregoning, Ruby, Academic Adviser, M.S., Southern Illinois University, 1976.
 Vitello, Elaine, Visiting Associate Professor, Ph.D., Southern Illinois University, 1977.
 Walton, Gary, Visiting Assistant Professor, M.A., Webster College.

Technology (College of Engineering and Technology)

Andrews, Paul E., Associate Professor, Ph.D., Southern Illinois University, 1980.
 Barbay, Joseph E., Jr., Associate Professor, Ph.D., University of Missouri, Columbia, 1971.
 Bell, Rodney A., Visiting Assistant Professor, M.S., Illinois State University, 1976.
 Besterfield, Dale H., Professor, Ph.D., Southern Illinois University, 1971.
 Brown, John J., Visiting Assistant Professor, M.S. in Ed., Southern Illinois University, 1975.
 Chen, Han Lin, Assistant Professor, M.A., Southern Illinois University, 1958.
 Contor, Keith L., Assistant Professor, M.S., State College of Washington at Pullman, 1960.
 Cross, Bud D., Visiting Assistant Professor, M.S., Southern Illinois University, 1965.
 Cutrell, Charles R., Visiting Assistant Professor, M.B.A., University of Missouri, 1972.
 Denton, Keith, Visiting Assistant Professor, M.P.A., Memphis State University, 1974.
 Doty, Leonard A., Visiting Assistant Professor, M.B.A., University of Chicago, 1970.

- Dunning, E. Leon, Professor, *Emeritus*, Ph.D., University of Houston, 1967.
 Eichfeld, William F., Assistant Professor, M.S., University of Wisconsin, 1973.
 Ferketich, Robert R., Assistant Professor, Ph.D., Southern Illinois University, 1980.
 Fillman, Harry W., Visiting Associate Professor, M.S., Columbia University, 1964.
 Frank, Roy R., Jr., Assistant Instructor, B.A., Southern Illinois University, 1970.
 Hart, Willard C., Instructor, *Emeritus*, B.S., University of Illinois, 1939.
 Horwitz, Norman G., Visiting Assistant Professor, M.S., Polytechnic Institute of Brooklyn, 1972.
 Jakubowski, Tadeus L., Visiting Assistant Professor, M.A., University of Maryland, 1968.
 Johnson, Marvin E., Professor, Ed.D., University of Missouri, Columbia, 1959.
 Jones, Robert L., Visiting Assistant Professor, M.S., University of Arkansas, 1978.
 King, Frank H., Visiting Assistant Professor, M.S.I.E., Oklahoma State University, 1975.
 Klopp, Mark E., Associate Professor, M.S.Ed., Pennsylvania State University, 1954.
 Lindsey, Jefferson F., III, Professor, D. Engr., Lamar University, 1976.
 McLuckie, John D., Visiting Assistant Professor, Ph.D., Southern Illinois University, 1976.
 Medeiros, Raymond R., Visiting Assistant Professor, M.S., Texas Tech College, 1964.
 Meyers, Fred E., Assistant Professor, M.B.A., Capitol University, 1975.
 Moeller, C. Merrill, Associate Professor, M.S.C.E., Kansas State University, 1951.
 Mueller, William E., Visiting Assistant Professor, M.B.A., Eastern Michigan University, 1972.
 Nolen, Don H., Visiting Assistant Professor, M.S., Texas Christian University, 1954.
 O'Hagan, Robert E., Visiting Assistant Professor, M.S., Wisconsin State University, 1974.
 Orr, James P., Visiting Assistant Professor, M.A., University of Oklahoma, 1972.
 Ott, Carlyle G., Assistant Professor, M.S.Ed., Southern Illinois University, 1951.
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Theater (College of Communications and Fine Arts)

- Lyons, Judith F., Assistant Professor, M.A.; Ed.S., University of Iowa, 1972.
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Thermal and Environmental Engineering (College of Engineering and Technology)

- Chen, Juh W., Professor and *Chairperson*, Ph.D., University of Illinois, 1959.
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 Kent, Albert C., Professor, Ph.D., Kansas State University, 1968.
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Vocational Education Studies (College of Education)

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- Clark, Kenneth J., Visiting Assistant Professor, Ph.D., St. Louis University, 1980.
- Cunningham, William J., Visiting Assistant Professor, Ed.D., University of Tennessee, 1976.
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- Harbert, Donald L., Visiting Assistant Professor, Ed.D., University of Florida, 1968.
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- Little, Richard L., Visiting Associate Professor, Ed.D., Arizona State University, 1968.
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- McDonald, Bruce A., Visiting Assistant Professor, Ed.D., Auburn University, 1976.
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Zoology (College of Science)

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